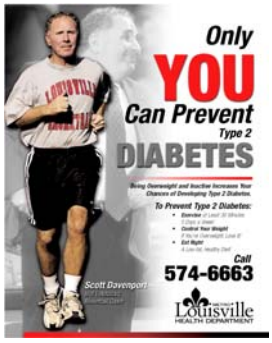
Health Status Assessment Report
2005



METRO Louisville HEALTH DEPARTMENT

Health Status Assessment Report

Louisville Metro Health Department

Director:
Adewale Troutman, M.D., M.A., M.P.H.

Produced by:
The Office of Policy Planning and Evaluation

Director:
Sheila Andersen, J.D., M.A., B.S.N.

Contributing Staff:

Bart Brown, B.S., M.B.A.
Matthew Groenewold, M.S.P.H.
Carl E. Hall, Ph.D.
Sarojini Kanotra, Ph.D., M.P.H., C.H.E.S.
Asad I. Quasem, M.P.H.

Other Contributors:
Carol Carrithers, Seven Counties Services, Inc.
Patricia Cummings, L.C.S.W., Seven Counties Services, Inc.
Lee Mayer, M.S., D.M.D., University of Louisville School of Dentistry

November 2005

LOUISVILLE, KENTUCKY

LOUISVILLE METRO HEALTH DEPARTMENT

JERRY E. ABRAMSON
Mayor

ADEWALE TROUTMAN, MD, MPH
Director

To the Readers of this Report:

This is the second annual Health Status Assessment Report of the community in the new, more comprehensive format. One of the core functions of public health is assessment and this report reflects our commitment to our duty to assess the status of the health of the community. The contents of this report are intended to educate the community on the health indicators that reflect our health status. It is also intended to provide data that can be used by all entities in the community to promote community discussion of the issues and collaboration that will lead to the improvement of the health of the community.

Each section of the report includes discussion of some of the health inequities that exist in our community. Only by understanding the inequities and the association between inequities and social determinants of health, can we correct the injustices that exist in our health care system.

We are excited about the opportunity to provide data that will initiate community discussion of the issues and encourage community partners to become involved in the formulation of the opportunities to improve the health of Louisville Metro. By working together we can achieve the goal of maximizing the health of all Louisville Metro residents.

We are committed to improving and expanding this report each year. If you have suggestion or comments, please contact our Office of Policy Planning and Evaluation at 574-6532 or 574-8270.

Sincerely,

Adewale Troutman

Adewale Troutman, M.D., M.P.H.
Director

Health Status Assessment Report

Table of Contents

Executive Summary

One of the core functions of public health is to assess the health needs of the community. This Health Status Report is our assessment of the community and includes indicators in the areas of:

- Demographic Profile
- Maternal and Child Health
- Causes of Death
- Chronic Diseases
- Oral Health
- Mental Health
- Injury
- Lead Exposure
- Communicable Diseases

Data sources utilized in this report include official birth and death, hospital discharge, census, and cancer data as well as data collected and maintained at the Louisville Metro Health Department. Comparisons are made to state and national data and trends over time and geographic distributions are included on selected indicators.

Each section of the report is organized under the following headings, which are included as appropriate:

- *What is it?* – A definition of the health indicator
- *Why is it important?* – A review of the importance of examining this area
- *What is Louisville Metro's status?* – A review of the relevant health data
- *What are we doing?* – Related program activities
- *What else do we need to do?* – Future plans and actions

Summary of Findings

Demographic Profile

- The age distribution of Louisville Metro (LM) residents is similar to the nation, with an increase in the 45 to 54 year old age group since 1990.
- The majority of LM households have an annual income of under $50,000.
- LM has a slightly higher percent of children in poverty (18.5%) than the nation (16.6%).
- Of LM residents age 25 years and older, 18% have not earned a high school diploma and nearly half have never attended college.
- The unemployment rate in LM had been lower than the nation for a decade, but in 2001 the LM rate was 4.6%, which is about the same as the nation.
- In 2004 88.6% of the LM residents report having some type of health care coverage, but this decreases to 79.3% for LM African Americans.

- The LM population by race/ethnicity is 76% White (Non-Latino), 19% African Americans (non-Latino), 2% Latino, and 3% Other.

Maternal and Child Health

- The average number of live births in LM was 9,646 per year from 1993-2002.
- The LM infant mortality rate had been declining from 9.9 deaths per 1,000 live births in 1993 to 5.9 in 2001. However, it rose back up to 8.9 in 2002.
- The infant mortality rate among African Americans was 15 per 1,000 live births, more than two times the rate among Whites (6.8).
- The percent of low birth weight births was highest in African American mothers (13.7%), almost twice the percent of White women (7.4%).
- Just over 10% of LM women who gave birth in 2002 failed to receive prenatal care during the first trimester. The Healthy People 2010 goal is 10%.
- The birth rate for teenage females age 15 to19 years was 48.7 per 1,000 population, higher than the national rate of 43.

Causes of Death

- The LM age-adjusted death rate from all causes in 2002 was 1004.2, which is substantially higher than the national rate of 845.3 per 100,000 population.
- The age-adjusted death rate for males was 50% higher than the female rate (1251.2 compared to 834.2).
- The age-adjusted death rate for African Americans was 27% higher than the rate for Whites (1237.1 compared to 972.7).
- The leading causes of death in LM during 2002 are:
    1. Diseases of the Heart
    2. Lung Cancer
    3. Stroke
    4. Chronic Obstructive Pulmonary Disease
    5. Unintentional Injuries
    6. Colon Cancer
    7. Diabetes
    8. Pneumonia and Influenza
    9. Kidney Disease
    10. Alzheimers Disease
- Of the top five causes of death, men have higher mortality rates from heart disease, lung cancer, chronic obstructive pulmonary disease and unintentional injuries than women. Women have a higher death rate from stroke when compared to men.
- Of the top five causes of death, African Americans have a higher mortality rate from heart disease, lung cancer, and stroke, while Whites have a higher death rate from chronic obstructive pulmonary disease and unintentional injuries.

Chronic Diseases

Diseases of the Heart

- The age-adjusted rate of death for diseases of the heart in LM during 2002 was 286.8 per 100,000 population. This rate has remained relatively stable for over five years, but exceeds the Healthy People 2010 goal of 166.
- The death rate for men is 52% higher than the rate for women (359.3 compared to 237).
- The death rate for African Americans is 32% higher than the rate for Whites (365.9 compared to 276.3).
- The rate of hospitalization for diseases of the heart has steadily increased from 2000 through 2003 in LM.

Stroke

- The age-adjusted death rate for strokes in LM during 2002 was 60 per 100,000 population. The Healthy People 2010 goal is 48 deaths per 100,000.
- The age-adjusted death rate from stroke was 10% higher among females than males (61 compared to 55.8 per 100,000).
- The age-adjusted death rate from stroke for African Americans was 44% higher than the death rate for Whites (81.8 compared to 56.8 per 100,000).

Lung Cancer

- The age-adjusted lung cancer death rate in LM was 74.4 deaths per 100,000 population in 2002, similar to the state rate (79.8 per 100,000). The LM rate is 36% higher than the national rate of 54.7and approximately 66% higher than the Healthy People 2010 goal of no more than 44.8 deaths per 100,000.
- The lung cancer mortality rate for African Americans was 17% higher than the rate for Whites (86.2 compared to 73.7 per 100,000 population.
- The lung cancer death rate for males was 103.3, nearly two times higher than the female rate of 55.4 per 100,000 population.

Diabetes

- The age-adjusted diabetes mortality rate in 2002 was 30.8 deaths per 100,000 for Louisville Metro. This rate is similar to both the state rate and the national rate.
- The diabetes death rate for African Americans was more than double the rate for Whites (59.4 compared to 26.6).
- The percent reporting diabetes was higher for African Americans than for Whites in Metro Louisville. The highest percent was reported by African American females (10.9%), followed by African American males (10.2%). Whites males reported 8.4% and White females 6.4%.
- The rate of diabetes-related hospitalizations in LM has steadily increased from 2000 through 2003.

Behavioral Risk Factors

- The BRFSS survey asks respondents if during the past month they participated in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking other than their regular job duties. In 2004, 70% of Kentucky residents reported participating in physical activity. For Louisville Metro the percent reporting physical

activity was 79.4% and the US reported 77%. The percent in LM was highest for White males and lowest for African American females.

- The 2004 survey showed that 27.2% of Louisville Metro adults currently smoke tobacco, which is higher than the national rate. When we examine "smoking every day" versus "smoking only some days" Louisville Metro is lower than the state for the rate who smoke every day, but higher for those who smoke only some days. In LM, the group with the highest percent is African American men (28.3%), though most of them report smoking only some days and not every day (15%).
- Approximately sixty percent of the LM residents were either obese or overweight based on their reported height and weight in 2004. This is lower than the Kentucky rate and about the same as the national rate. African American females had the highest percent and White females had the lowest percent overweight or obese.
- The percent of people in Louisville Metro who reported eating five or more servings of fruits and vegetables each day (26.6%) was higher than Kentucky (18.2%) and the United States (22.6%). However, all these data reflect that the majority of people are not eating the recommended daily amount of fruits and vegetables.

Oral Health

- Over 73% of LM adults in 2004 reported seeing a dentist during the past year. This is slightly higher than the percent for Kentucky, the US, and the Healthy People 2010 goal.
- Over 73% of Louisville Metro residents reported a "teeth cleaning" procedure during the past year. This was highest among White females in LM (77.7%), followed by White males (72.2%), African American females (66%), and then African American males (63.6%).
- A 2001 survey of a five county area including LM found that approximately 31% of the children had untreated tooth decay.

Mental Health

Mental Illness

- The percent responding "none" to the question *"How many days during the past 30 days was your mental health not good?"* was slightly lower for Louisville Metro compared to Kentucky and the United States (58.9% for Louisville Metro, 67.4% for Kentucky, and 65.8% for the US).
- A higher percentage of females in Louisville Metro reported fourteen or more days of "not good" mental health during the past month compared to males (African American females 17.2%; White females 13.7%; White males 7.6%; African American males 6.5 %).
- Females in Louisville Metro had a higher hospitalization rate for mental disorders than males.
- Louisville Metro residents had a higher hospitalization rate for mental disorders than the United States.

Suicide

- In 2002, the LM mortality rate from suicide was 12.9 deaths per 100,000 population. This rate is about the same as the rate for the state and slightly higher than the national rate, but still more than twice the Healthy People 2010 goal.
- The suicide rate for males in LM was more than four times that for females (22.12 compared to 4.6).
- The suicide rate for Whites in LM was nearly triple that of African Americans (15.4 compared to 5.2).

Injury

Unintentional Injury

- In 2002, the age-adjusted mortality rate from unintentional injury was 37.1 deaths per 100,000 population. This was lower than the state rate of 50.5 and about the same as the national rate of 36.9. However, it was still nearly twice the Healthy People 2010 goal.
- The mortality rate from unintentional injury for males was 48.6, which was nearly twice the rate for females, 26.7.
- The largest category of unintentional injury deaths was motor vehicle crashes (32%), followed by accidental poisonings (18%) and falls (16%).
- The LM mortality rate from traffic-related motor vehicle crashes was 12 deaths per 100,000 population, considerably lower than both the state (22) and national (15.7) rates, but still higher than the Healthy People 2010 goal of 9.2 for all motor vehicle crashes.
- The mortality rate from traffic-related motor vehicle crashes for males was almost three times the rate for females (18 compared to 6.5).

Bicycle and Pedestrian Collisions

- During the years 2000 through 2003 in LM, the number of pedestrian collisions ranged from 331 to 359 and the number of pedestrian fatalities ranged from 9 to 21 each year. The number of bicycle collisions varied from 151 to 185 and the cyclist fatalities from zero to one each year.
- Friday was the day of the week with the largest percentage of both bicycle and pedestrian collisions. More than half of the bicycle collisions occurred between 2:00 and 7:00 PM while almost half of the pedestrian collisions occurred during those hours.
- Drivers in both bicycle and pedestrian collisions and pedestrians involved in pedestrian crashes were more likely to be male than female. Of the cyclists involved in bicycle collisions over eighty percent were male.
- The percentage of drivers involved in bicycle and pedestrian collisions who were 16 to 34 years of age were over-represented compared to their percent of the licensed drivers. The percent of bicyclists and pedestrians involved in these collisions who were twenty years of age and younger were over-represented in these collisions compared to their percent of the LM population.
- The darker it is outside, the more severe the injury is to a pedestrian who is struck by a motor vehicle in LM in 2003. Of the fifteen pedestrian deaths in 2003, 70% of these collisions occurred when it was nighttime, dawn, or dusk.

Homicide

- The mortality rate from homicide in LM for 2002 was 8 deaths per 100,000 population, higher that the state rate of 4.7 and the national rate of 6.1.
- The homicide mortality rate for males was three times that for females in LM (12.5 compared to 3.9 per 100,000 population).
- The LM mortality rate from homicide for African Americans was nearly six times that of Whites (24.4 compared to 4.4).

Lead Exposure

- Thirty-five percent of the Louisville Metro children who were under three years of age and 22% under six years of age were screened for blood lead level in 2004.
- Less than three percent of those screened had a blood lead level that was ten or more micrograms per deciliter.
- The mean blood lead level for all screened children was 3.5 micrograms per deciliter; 3.2 for White children and 4.2 for African American children.

***Communicable Disease*s**

- The incidence of newly diagnosed AIDS cases increased in 2002 from14 to 16 cases per 100,000 population. The rate for African Americans was three times the rate for Whites (35.9 compared to 11.3).
- The incidence of primary and secondary syphilis cases in Louisville Metro has varied over the past five years. However, African Americans consistently have a higher rate than Whites.
- African Americans rates for gonorrhea and chlamydia are much higher than the rates for Whites. For gonorrhea the African American rate is nineteen times the rate for Whites in 2003. For chlamydia, African Americans have eight times the rate.
- The tuberculosis case rate for African Americans during 2003 is three times the rate for Whites.
- Whites are more likely, at a national level, to have pertussis than African Americans. However, in LM African Americans have an incidence rate that is three times the rate for Whites.

Report Overview

Contents

This Health Status Assessment Report is the second annual report utilizing a more comprehensive format. This year, three sections were added to the report (oral health, mental health, and lead exposure). Each year, the report will be expanded to be more comprehensive.

One of the core functions of public health is to assess the health needs of the community. This Health Status Assessment Report is our assessment of the community and includes indicators in the areas of:

- Demographic Profile
- Maternal and Child Health
- Causes of Death
- Chronic Diseases
- Oral Health
- Mental Health
- Injury
- Lead Exposure
- Communicable Diseases

Each section of the report is organized under the following headings, which are included as appropriate:

- *What is it?* – A definition of the health indicator
- *Why is it important?* – A review of the importance of examining this area
- *What is Louisville Metro's status?* – A review of the relevant health data
- *What are we doing?* – Related program activities
- *What else do we need to do?* – Future plans and actions

Terminology

For purposes of this report, specific terms of reference were selected. For race and ethnic categories, the terms "**White**," "**African American**," and "**Latino**" will be used. While White can be designated Caucasian, African American can be Black, and Latino can be Hispanic, one designation was selected for each category for consistency. White and African American refer to race categories. Some other race categories such as Asian/Pacific Islander and American Indian are included in the analysis if appropriate. Latino refers to an ethnic category. Some data only include the race categories. Other data include ethnic categories as well. When reporting those data, the categories become White (Non-Latino), African American (Non-Latino), and Latino (any race).

Jefferson County, Kentucky contains the city of Louisville. In January of 2003 the governments of the city of Louisville and Jefferson County merged into one governmental entity. In this report, "**Louisville Metro**" will be the designation for the area formerly known as Jefferson County, Kentucky.

Data Analysis

The most current data considered official were utilized in this report. The latest birth and death (vital statistics) files that were official at the time this report was compiled were for 2002. Data from 2003 and 2004 were used for other sources when available. For the Behavioral Risk Factor Surveillance System survey 2004 data were available for Louisville Metro and comparable data for Kentucky and the US varied from 2002 to 2004.

The rates for communicable disease incidence and for chronic disease-related hospitalization are generally presented as a *crude (unadjusted) rate* per 100,000 population. For example, to compute a crude rate per 100,000 population for the year 2003 for gonorrhea, the steps are:

- Divide the number of new cases of gonorrhea reported during the year 2003 by the population of the area
- Multiply that result by 100,000

The death (mortality) rates are computed as *age-adjusted rates*. The age-adjusted process compensates for the differences in the age composition of the population.

- First, a crude rate is calculated for each age category.
- Then the age-specific rate is multiplied by the proportion of the standard population that particular age category represents.
- These weighted age-specific rates are added together to make an age-adjusted rate for that population.

In addition to crude rates, age-specific rates and rates based on the number of live births are used in maternal and child health analysis.

The Appendix at the end of the report provides tables of the diagnostic codes used to form the categories of analysis in the mortality and morbidity data.

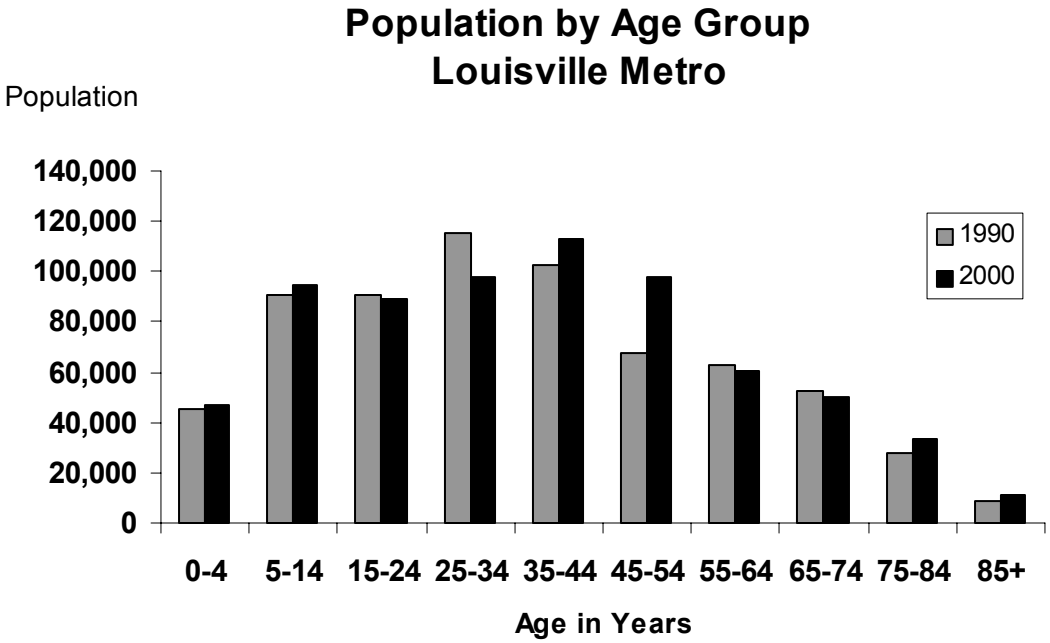

Louisville Metro Demographic Profile

Many social and demographic characteristics are related to health status and health needs. Therefore, a thorough health status assessment requires a review and understanding of these characteristics.

Age

As this report verifies, health problems encountered and the preventive services needed vary greatly by the age of the individual. Senior adults have health care needs that are very different from younger adults and children. For example, younger individuals have a higher death rate from accidental injuries and older individuals have an increased chance of having their health affected by chronic diseases.

The age distribution of Metro Louisville residents is very similar to the age distributions of Kentucky and the United States. The largest changes between 1990 and 2000 in the Louisville Metro population were a 15% decrease in the 25 to 34 year old age group and a 45% increase in the 45 to 54 year old age group.[1] These changes are explained largely by the aging of the 'baby boom' generation. As this group continues to age, chronic diseases and other health issues associated with an older population will require more attention from the Louisville Metro Health Department.

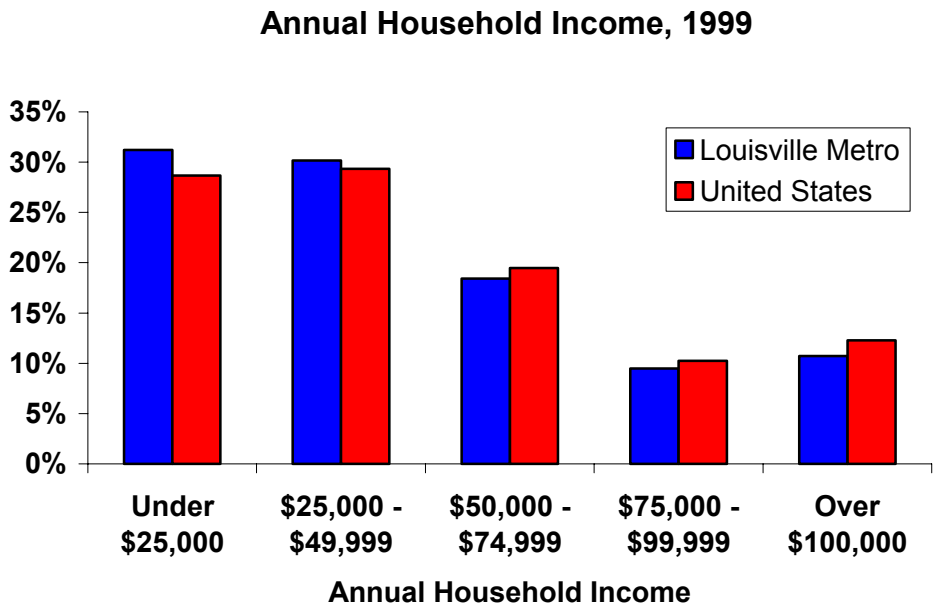


Economic Status

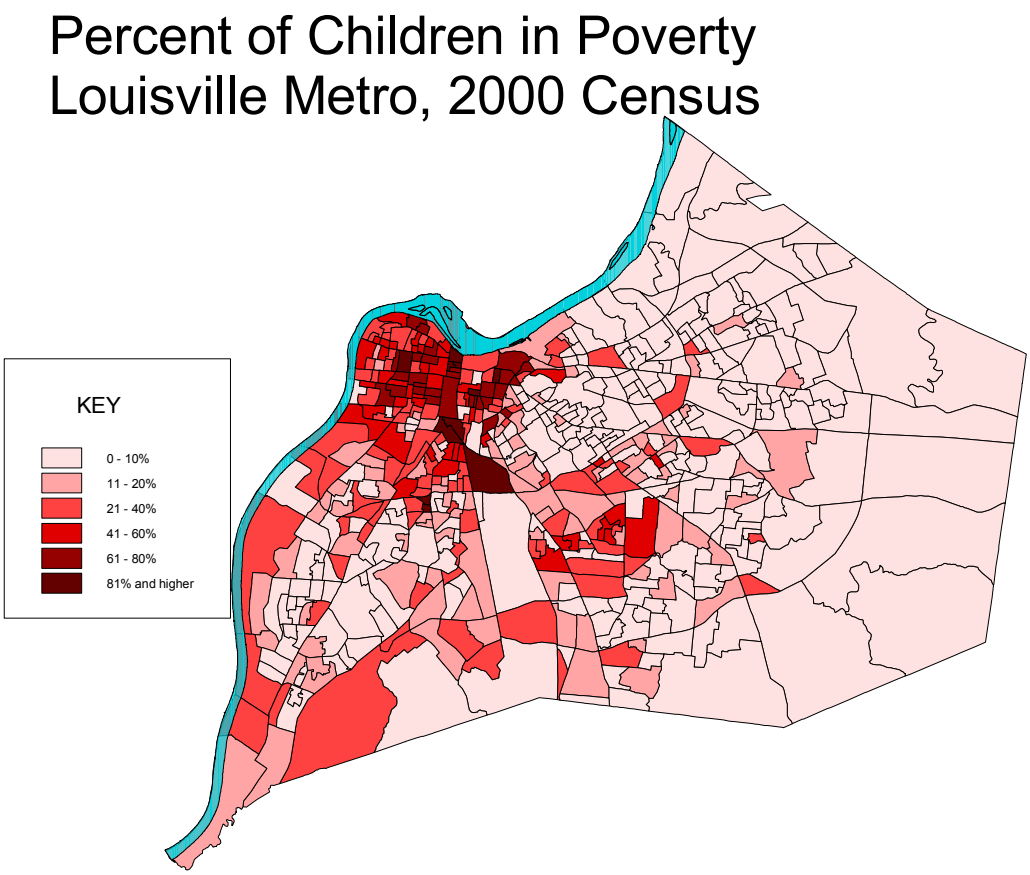
There is a strong positive relationship between one's economic status and health. A lower economic status can create health problems associated with poor housing, an inadequate diet, and a lack of access to health services. In addition, major health problems, regardless of their cause, can inflict great financial hardship on families and dramatically alter the health status and life chances of all family members.

Income

Income is one indicator of economic status. Louisville Metro households have a median income of $39,457 while the median income for the nation is $41,994. Almost a third of the Louisville Metro households have annual incomes under $25,000 while almost another third of the households earn from $25,000 to under $50,000 each year. Louisville Metro has a higher percent of households in both of these lower income categories than the nation. The majority of Louisville Metro households earn under $50,000 each year.

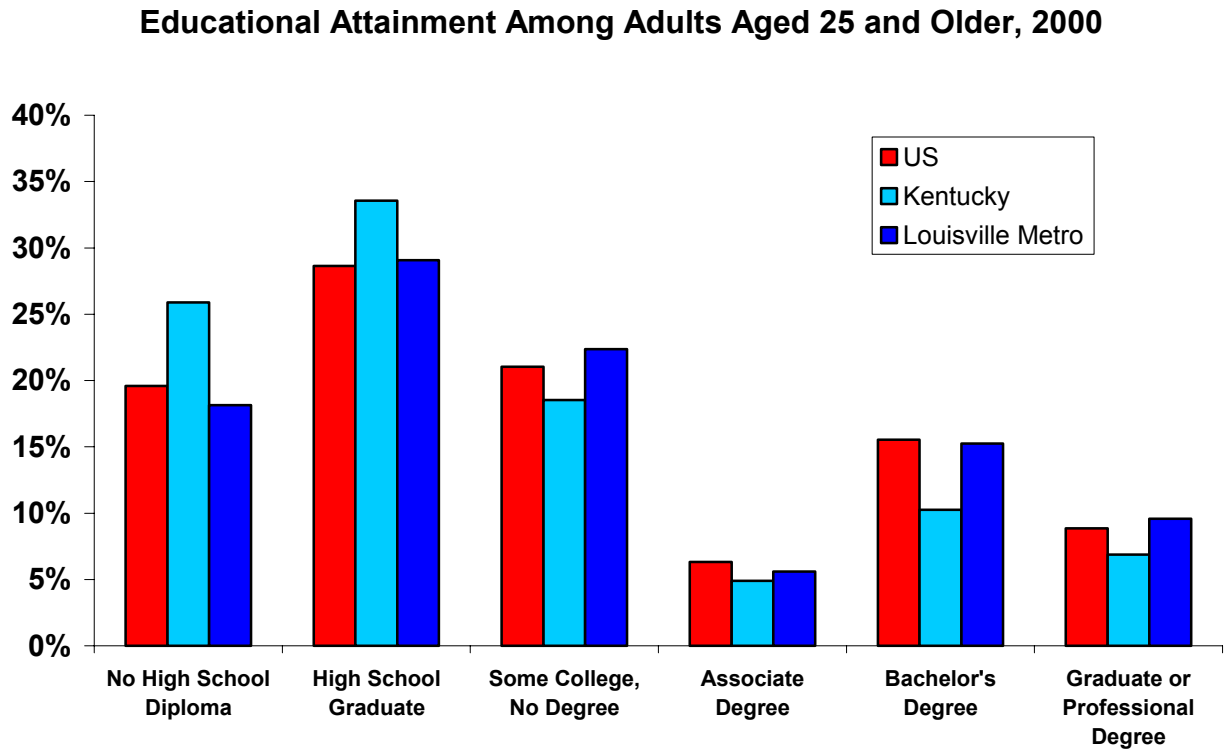


Federal poverty thresholds are defined by the U.S. Census and vary by size and composition of the household. In 1999, a family of four with two children was considered to be in poverty only if their income was less than $16,895.[2] According to 2000 census data, both Louisville Metro and the nation have 12.4% of the residents living below the poverty level. However, Louisville Metro has a higher percent of children in poverty (18.5% compared to 16.6% for the nation). The children living in poverty are primarily in the western half of the Louisville Metro area, with the highest concentrations in the northwestern area.



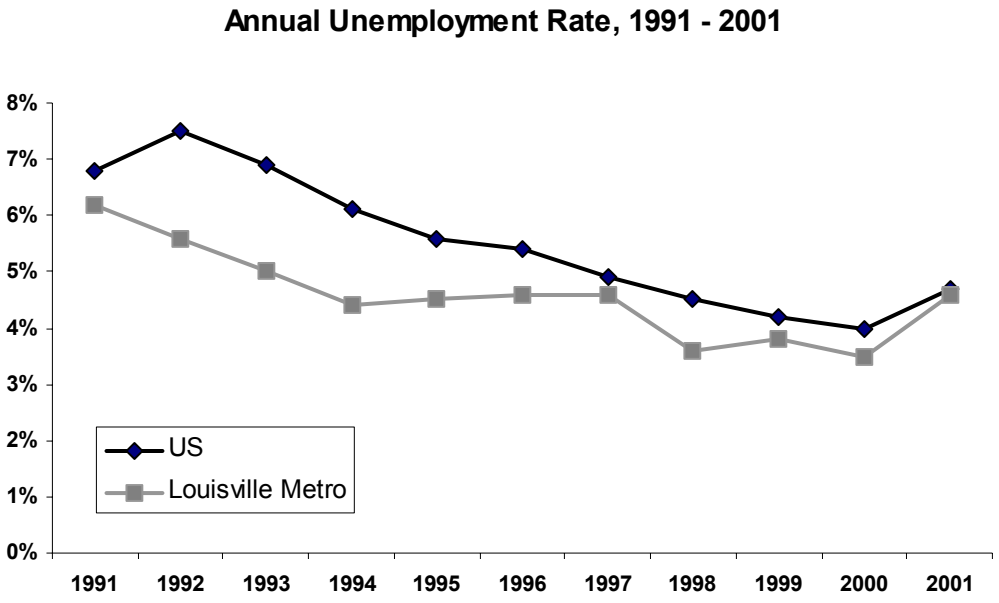
Education

Education is an indicator of social and economic status and of economic potential. The educational attainment of Metro Louisville residents is more similar to that of the United States as a whole than the Commonwealth of Kentucky. Eighteen percent (18%) of Louisville Metro residents who are 25 years of age an older have not earned a high school diploma. Nearly half of the residents 25 years of age and older have never attended any college.



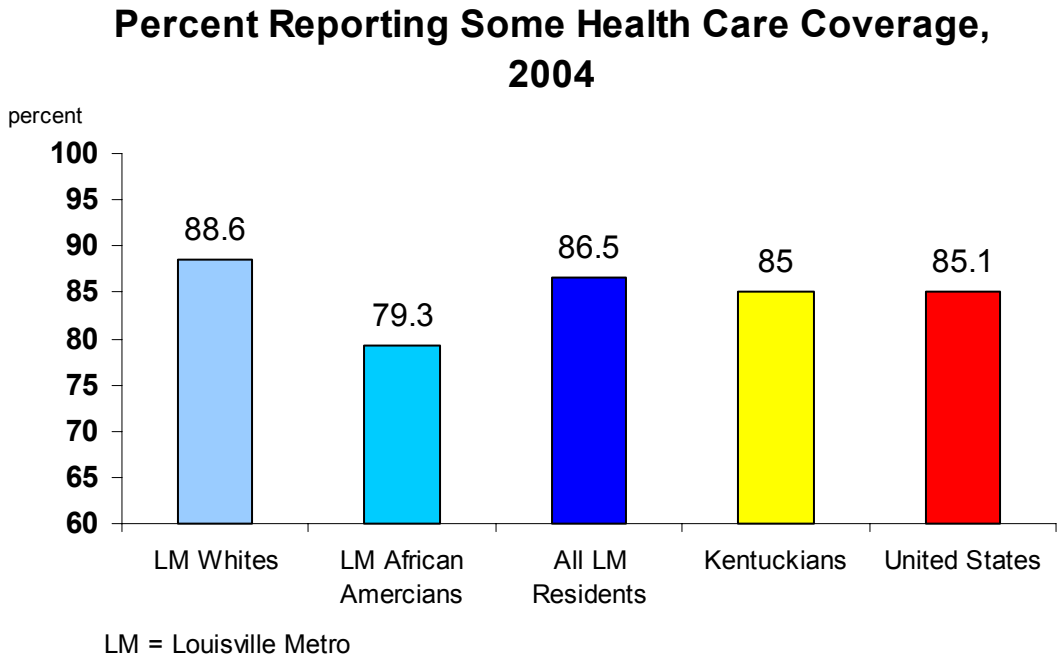
Unemployment

Unemployment is also an indicator of economic status. Employment status is important because health coverage may be related to employment status. In order for a person to be defined as unemployed, they must have actively sought work over the previous four weeks. Persons who stop looking for work are not considered to be a part of the workforce and are not counted as unemployed. For this reason, the unemployment statistic likely under-represents the actual percentage of unemployed persons. During the decade from 1991 to 2000 Metro Louisville has enjoyed an annual unemployment rate that was lower than the rate for the United States. However, in 2001 the unemployment in Metro Louisville increased to 4.6% about the same as the rate for the nation.[3]



Health Care Coverage

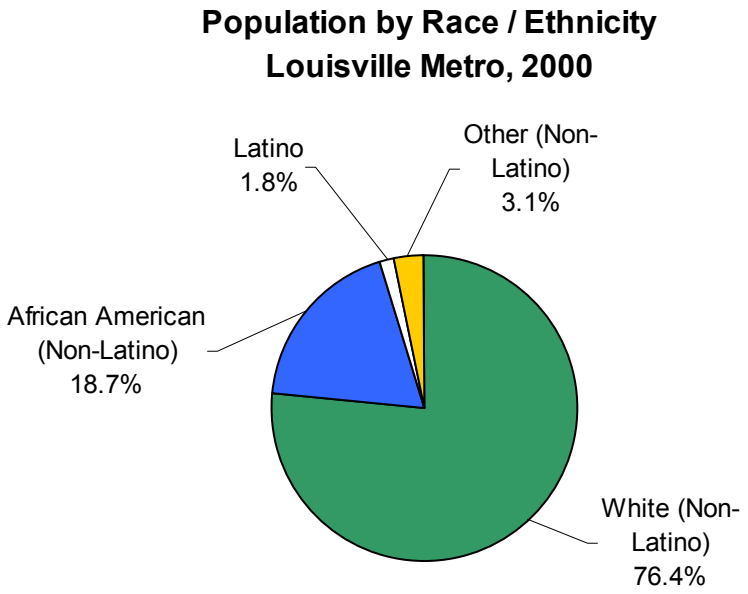
The percent of the population having some type of health care coverage is another indicator of access to health care services. The percent of Louisville Metro residents who report health care coverage (88.6%) is slightly higher than the percent for Kentuckians and the United States. However, if you examine coverage in Louisville Metro for African Americans, the percent is 79.3%, which is lower than the percent for Kentucky and the United States.



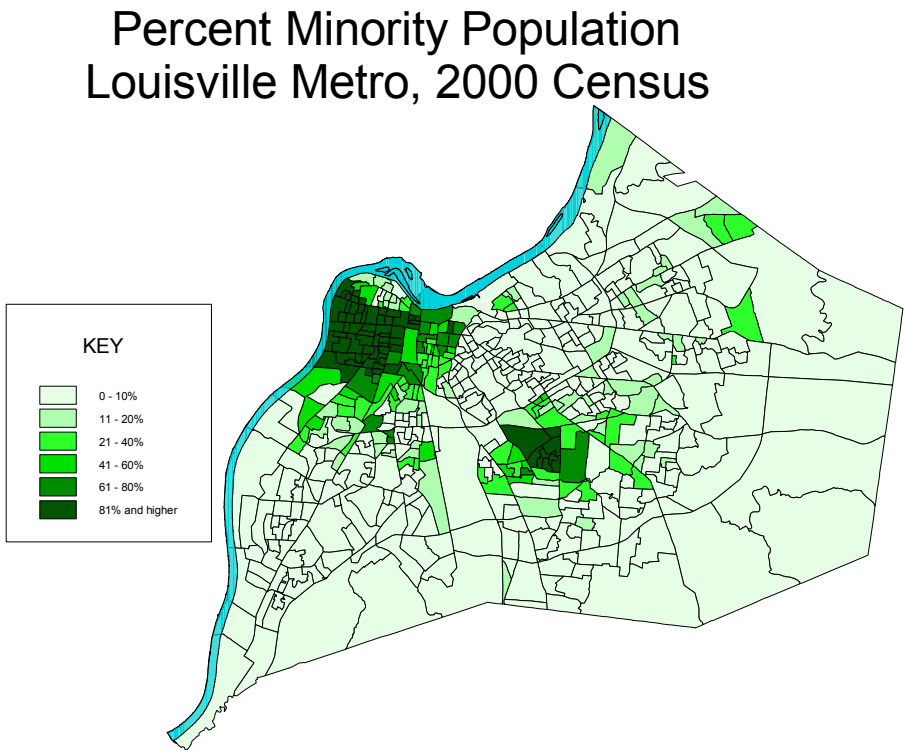
Race and Ethnicity

In the U.S., race and ethnicity are closely associated with economic status. The health implications, however, go beyond economics because race and ethnicity are also associated with different cultural patterns. These differences can influence health related behaviors ranging from diet to when it is considered appropriate to seek health care.

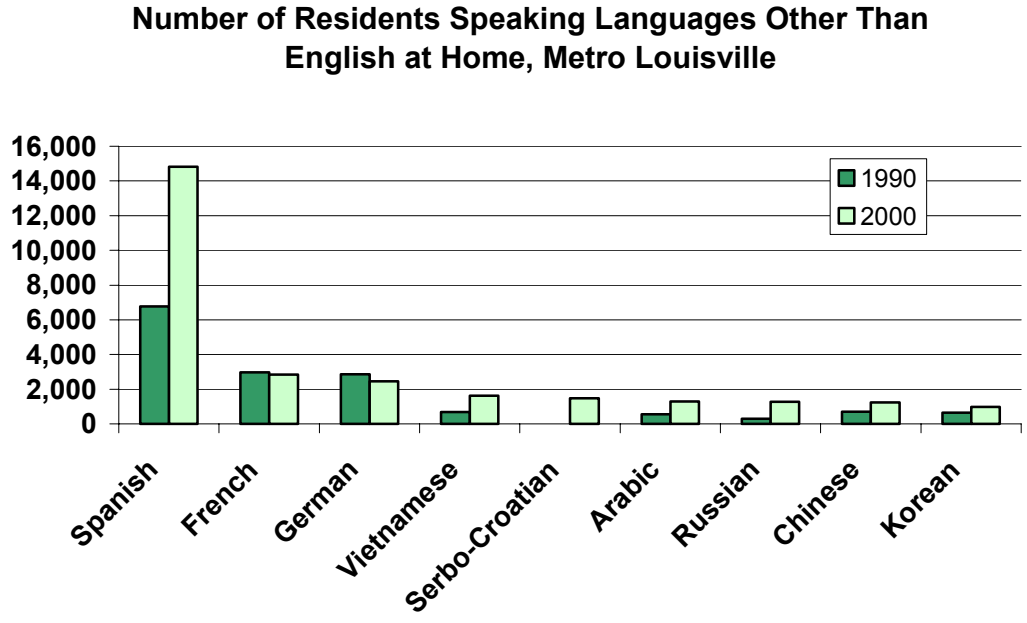
Metro Louisville has a minority population of 23.6%. This is slightly lower than the percent for the nation, which is 24.9%. The largest portion of this minority population in Louisville Metro is African American. Other groups include Asians and American Indian/Alaskan Natives. The proportion of minority residents in Louisville Metro increased over the period from 1990 to 2000.



The minority population in Louisville is concentrated primarily in two areas of the community, in the northwest and the south central areas.



Languages Spoken



The percent of residents of Louisville Metro who do not speak English well or do not speak English at all is only 1.2%. However, 5.5% of all residents speak a language other than English at home. Most residents who speak another language at home speak Spanish. The Kentucky Data Center believes that Latino residents of the county were undercounted in the 2000 census. Persons with limited English proficiency may not have understood or returned the census questionnaire. Undocumented persons may have avoided contact with the Census Bureau employees. Therefore, census data related to foreign-born persons, or persons of limited English proficiency should be interpreted with caution.

Louisville Metro Health Department is committed to principles of cultural competency and is actively training its employees to understand these trends and the needs of these diverse communities. Special phones are available at Health Department clinics to provide translation services to ensure that English proficiency is not a barrier to delivery of service.

References

1. U.S. Census Bureau. American Factfinder. <http://factfinder.census.gov/home/saff/main.html?_lang=en>. 30 July 2004 (Available from http://www.census.gov)

2. U.S. Census Bureau. Poverty 1999. <http://www.census.gov/hhes/poverty/threshld/thresh99.html>. 30 July 2004

3. Workforce Kentucky. Unemployment Rates. <http://www.workforcekentucky.ky.gov/cgi/dataanalysis/AreaSelection.asp?tableName=Labforce>. 30 July 2004 (Available from http://www.workforcekentucky.ky.gov)

Maternal and Child Health

Maternal and child health (MCH) indicators include those related to the health of pregnant women, women after giving birth, and their infants and children. The health of mothers, infants and children is important as an indicator of the current health status of our community and as a predictor of the health of the next generation. This section covers key MCH indicators: infant mortality, low birth weight, prenatal care, birth to teenagers, and Perinatal Periods of Risk.

Characteristics of Live Births

The average number of live births in Louisville Metro was 9,646 per year from 1993-2002. The birth rate is stable through the years except for a slight (5%) increase in 2000 as compared to the other years.

In 2002, 72% of all births occurred in White women followed by African American women with 25%. Asian/ Pacific Islanders and American Indians contributed a very small remainder of the total live births. Four percent of the births were to women with Hispanic ethnic origin.

The highest birth rates were among Asian/ Pacific Islanders and American Indians (30.4 and 22.3 per 1,000 population respectively). African Americans had a birth rate of 18.3 and Whites had the lowest birth rate of all groups (13 per 1,000).

A majority of the births (77.2%) were to women 20 to 34 years of age. Teenage females (19 and under) account for 11.3% births, and 11.5% births were to women 35 years of age and older. There was a decline in births to teen females during 2002 compared to 2001. Eighty-one percent of those giving birth had a high school degree.

Select Characteristics of Live births to Louisville Metro Residents, 2002

	Births	%	Birth Rate*
Birth Rate by Year			
1993	9,388		13.5*
1994	9,561		13.8*
1995	9,441		13.6*
1996	9,695		14.0*
1997	9,569		13.8*
1998	9,495		13.7*
1999	9,705		14.0*
2000	10,120		14.6*
2001	9,777		14.1*
2002	9,708		14.0*
Race of Mother			
White	6,964	71.7%	13.0*
Black or African American	2,401	24.7%	18.3*
Asian/ Pacific Islander	301	3.1%	30.4*
American Indian	34	0.4%	22.3*
Other/Unknown	8	0.1%	**
Ethnicity of Mother			
Non-Latino	9,306	95.9%	
Latino	394	4.1%	
Age of Mother (years)			
19 and under	1,095	11.3%	49.2***
20-34	7,493	77.2%	104.0***
35 and older	1,115	11.5%	13.1***
Mother ≥ 12 yrs Education	7,849	80.9%	

* Births per 1,000 population

** Rate not calculated due to small number of births

*** Births per 1,000 women in that age group

Infant Mortality

What is it?

Infant mortality is the death of an infant before the date of the first birthday. The infant mortality *rate* is the number of deaths of infants less than one year old per 1,000 live births during the same period of time.

Why is it important?

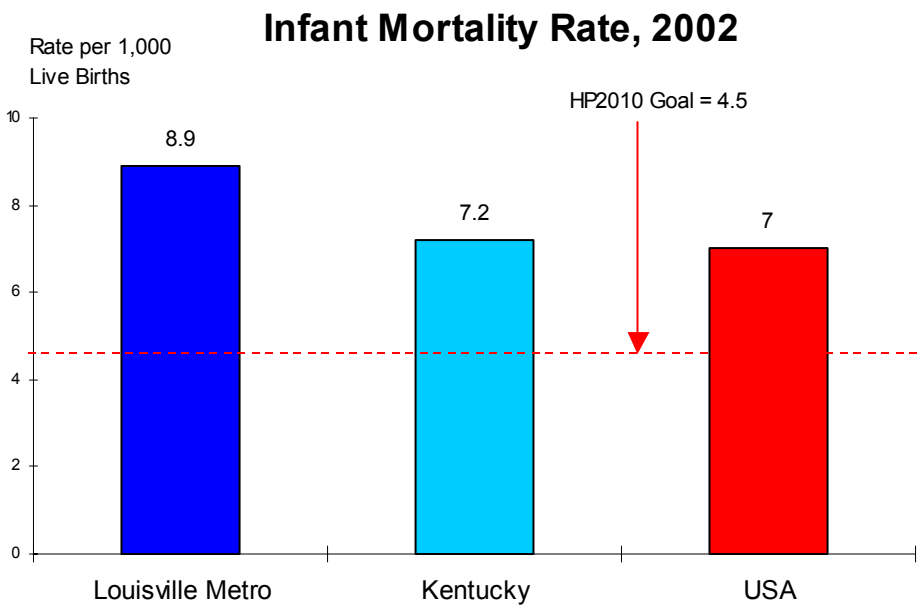
Infant mortality is the leading indicator of the health status of a nation. Infant mortality rates in the nation over the past several decades have substantially decreased from 29.2 in 1950 to 6.8 deaths per 1000 live births in 2001.[1] But in 2002, an increase in the infant mortality was observed for the first time in the nation since 1958.[2]

Infant mortality is also an indicator of the health of a community and its mothers. It represents many factors that affect infant deaths. These factors include the general health of pregnant women, their ability to access prenatal care, the care that they receive during and after delivery, care provided to the newborn, and the care the infant receives when he or she goes home. The most prevalent causes of infant death in 2002 were birth defects, prematurity and sudden infant death syndrome (SIDS).[3]

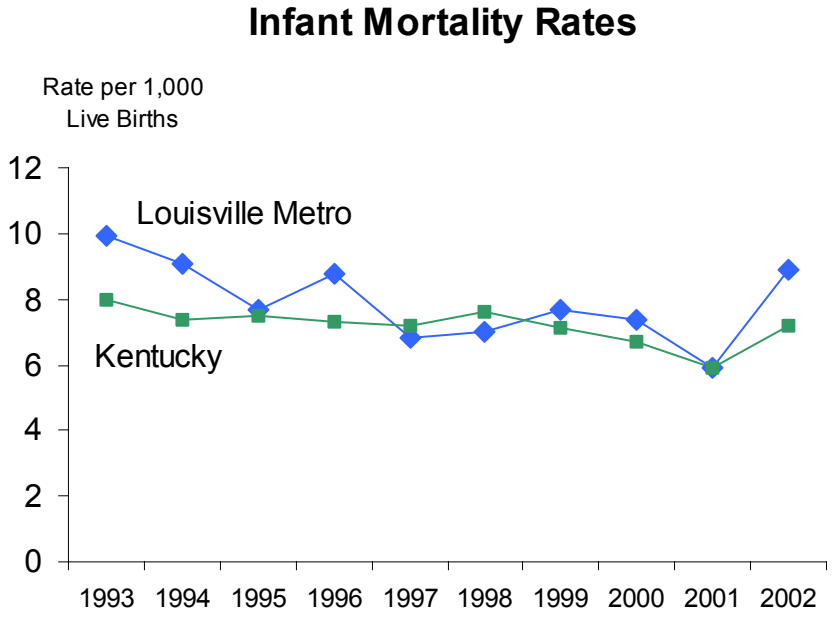
Higher rates of infant mortality are associated with young age of mother (under 17 years), older age of mother (over 43 years), substance abuse by mother, premature birth, low birth weight, exposure to secondhand smoke, inadequate prenatal care, infections and other complications during pregnancy.[4]

What is Louisville Metro's status?

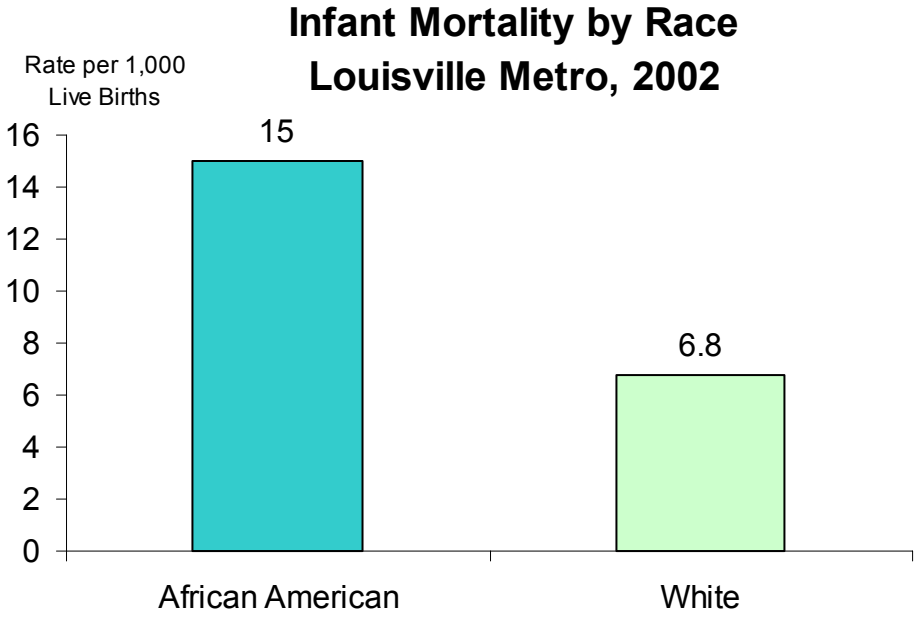
The infant mortality rate in Louisville Metro in 2002 was 8.9 per 1,000 live births. This rate is almost twice the Healthy People 2010 national goal of no more than 4.5 deaths per 1,000 live births.[4]



Louisville Metro's infant mortality rate is higher than both Kentucky's rate and the United States. The infant mortality rate for Louisville Metro had generally been declining from 9.9 deaths per 1,000 live births in 1993 to 5.9 in 2001, but there was an increase to 8.9 in 2002.



The infant mortality rate among African Americans was 15 per 1,000 live births, more than two times the rate for Whites (6.8). Important determinants of racial differences in infant mortality are low birth weight (LBW), and very low birth weight (VBLW).[5]



In 2002, 86 infants died before their first birthday in Louisville Metro. Nearly sixty percent of or 52 of these deaths occurred during the neonatal period, the first 27 days of life. The remaining forty percent (or 34 deaths) occurred during the post-neonatal period, from 28 days to one year after birth. Of the infants who died, 55% were White and 42% were African American.

Low Birth Weight

What is it?

Babies who are low birth weight (LBW) weigh less than 2500 grams (or 5.5 pounds) at birth. Very low birth weight (VLBW) babies weigh less than 1500 grams (or 3.3 pounds).

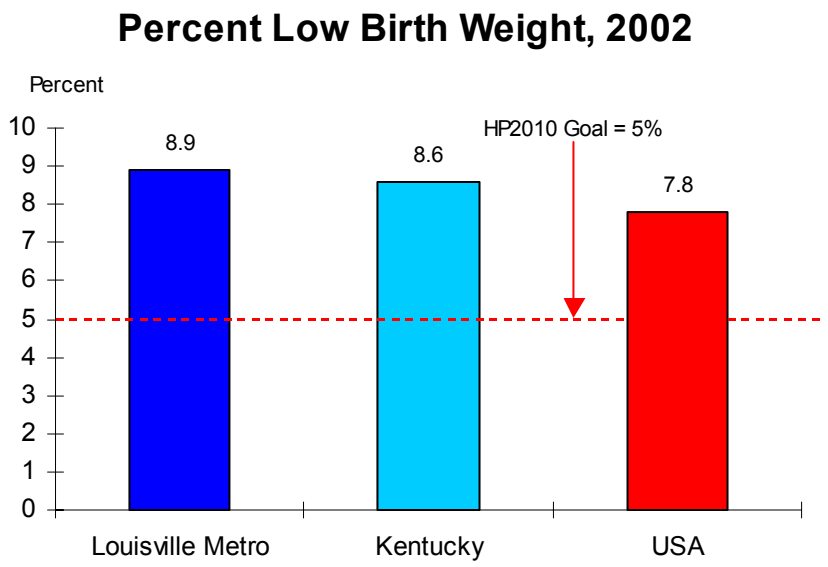
Why is it important?

Low birth weight is the leading cause of infant death. Achieving a healthy weight is crucial for a newborn's survival. Most of the low birth weight and very low birth weight babies die during the first 28 days of their life. Therefore, improvement in the babies' birth weight can have a significant impact in reducing infant mortality. Additionally, LBW children are at risk for lower scores on intelligence tests and for developmental delays. As a group, LBW children experience more health problems, such as asthma, upper and lower respiratory infections, and ear infections.[6]

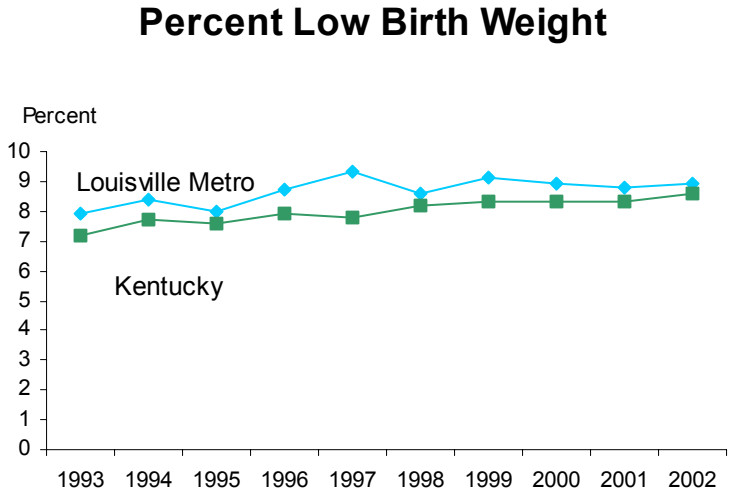
Several social and medical factors contribute to the risk of a low birth weight infant. Most important among these are pre-term (or early) labor and delivery, pregnancy associated hypertension (high blood pressure), maternal smoking and illicit drug use, young age of mother, poverty, decreased access to care, increased stress, poor maternal nutrition and a lower level of education of the mother.[7]

What is Louisville Metro's status?

In 2002, 8.9% (or 867) of the 9,708 live births in Louisville Metro were low birth weight. Of the low birth weight births, 196 (or 22.6%) were very low birth weight. The percentage of low weight births in Louisville Metro was higher than the percent low weight births in Kentucky (8.6%) and the United States (7.8%). These rates exceed the Healthy People 2010 goal of 5%.[4]

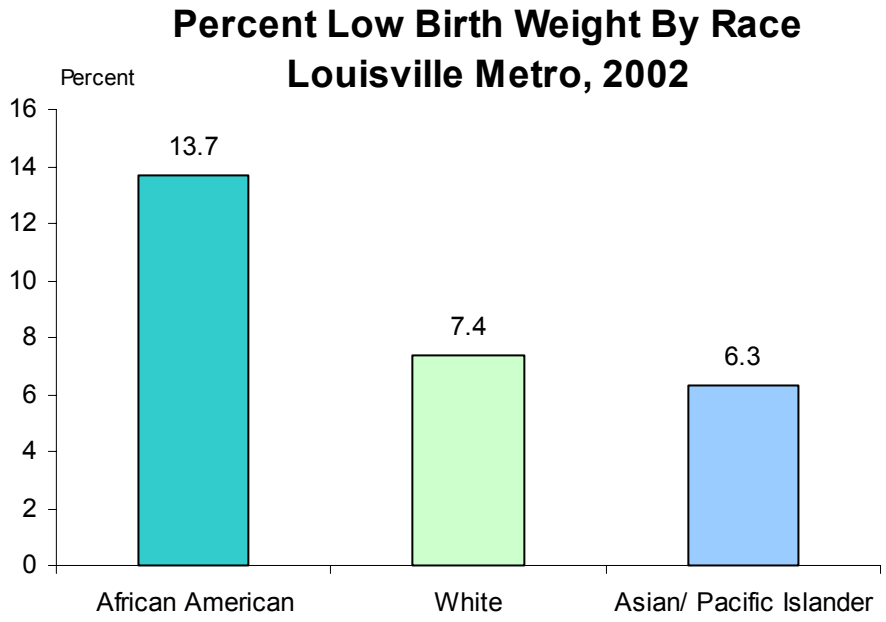


The proportion of low weight births in Louisville Metro has increased overall from 7.9 in 1993 to 8.9 in 2002. A rise in the percent of low weight births is also seen in Kentucky from 1993 to 2002. However, the state percent has been consistently lower than the percent in Louisville Metro.

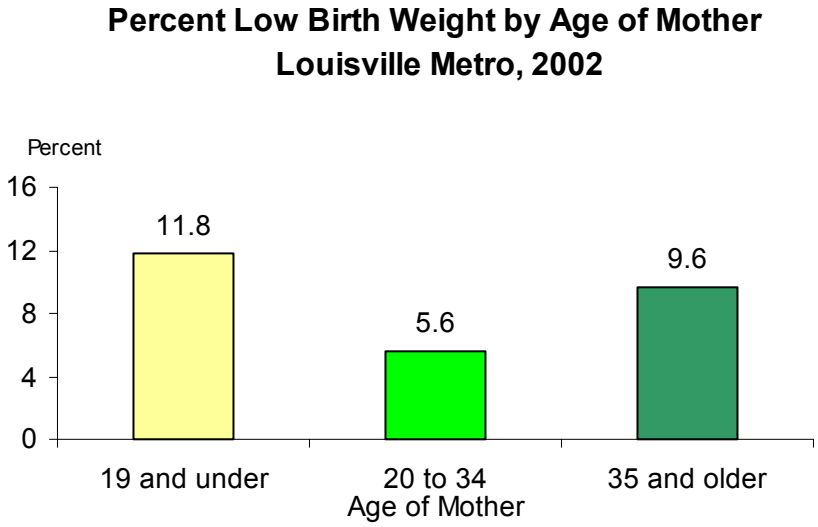


The percent of low birth weight births was highest in births to African American mothers (13.7%), almost twice the percent for White births (7.4%). The origin of the differences between the African American and White races in low birth weight is complex and can not be explained entirely by demographic risk factors such as maternal age, education, or income.[4] Factors that may contribute to this disparity include racial differences in maternal medical

conditions, stress, lack of social support, vaginal infection, previous preterm delivery and maternal health experiences that might be unique to African American women.[8]

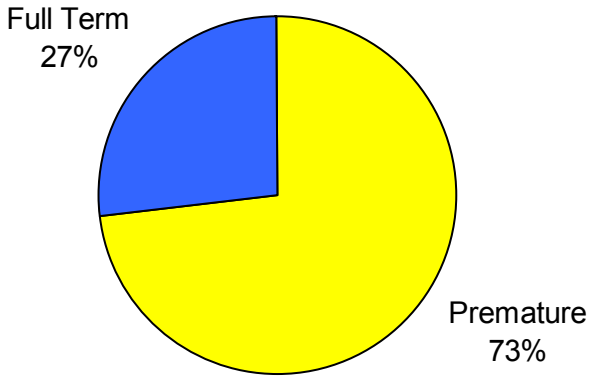


As a group, teen mothers 19 years of age and under had the highest percentage of low birth weight births (11.8%) followed by mothers 35 years of age or older (10.8%).



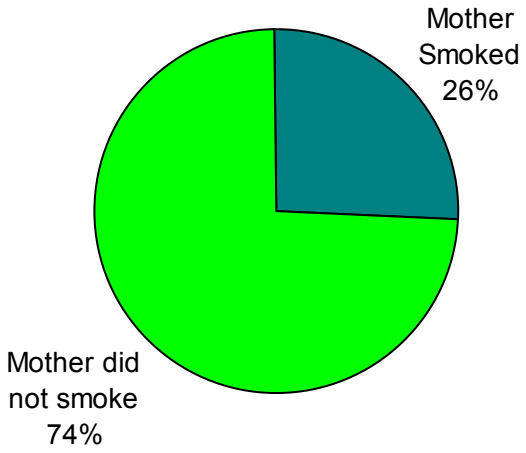
There is a strong association between LBW and preterm delivery. Preterm births are the percentage of all live births that occur before 37 weeks of pregnancy. Of the 867 low weight births in Louisville Metro, 633 (73%) were preterm (or premature) births.

Level of Maturity at Birth for Low Birth Weight Infants Louisville Metro, 2002

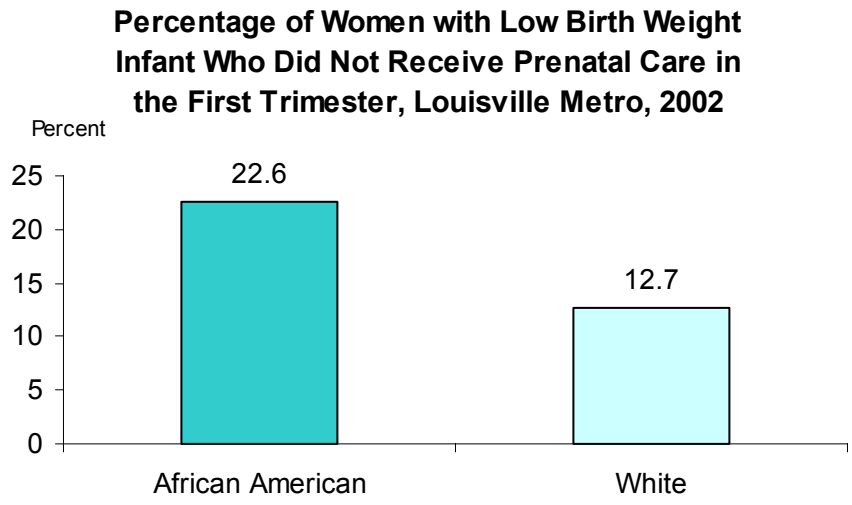


Approximately 26% of the women who gave birth to a low birth weight infant reported smoking during pregnancy.

Smoking Status of Mother for Low Birth Weight Infants Louisville Metro, 2002



Of the 867 women who gave birth to a LBW infant, 16.1% did not have prenatal care in the first trimester. Of the African American women with a LBW infant, 22.6% did not receive prenatal care in the first trimester. This compares to 12.7% for White mothers with LBW infants.



Prenatal Care

What is it?

"Pre" means before and "natal" means of, relating to, or present at birth. Prenatal care is health care and other services available to pregnant women as a fetus develops within her uterus. Adequate prenatal care is usually defined as starting care in the first three months (first trimester) of pregnancy with at least nine (9) visits for women giving birth to full-term infants (after 40 weeks of pregnancy).[9]

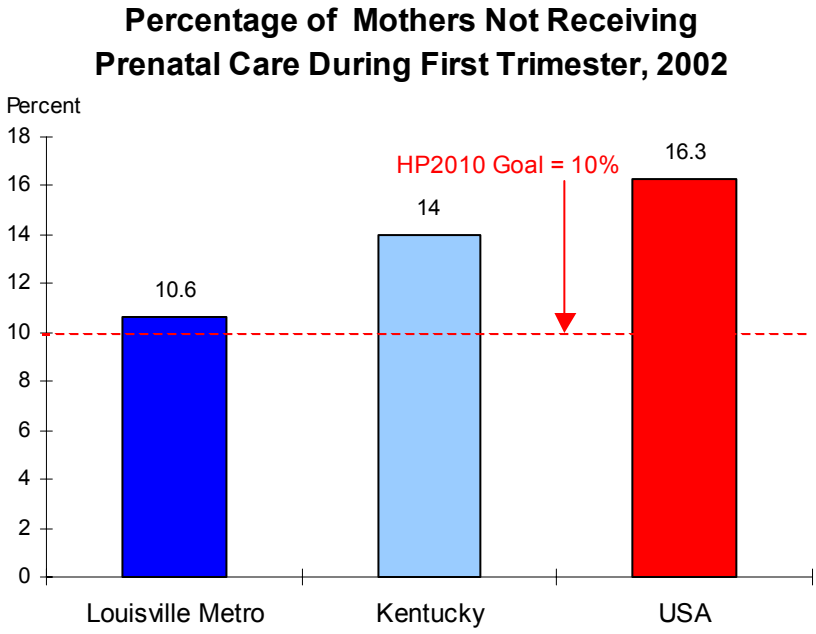
Why is it important?

Adequate prenatal care is important because the health care provider has the chance to find problems early so that they can be treated as soon as possible, improving the birth outcomes. The purpose of prenatal care is to decrease the number of infants born too early (preterm birth) and too small (low birth weight) and to prevent mother and infant sickness and death. Timely prenatal care can help in the identification of risk factors such as hypertension, diabetes and sexually transmitted diseases that may endanger the mother and fetus.

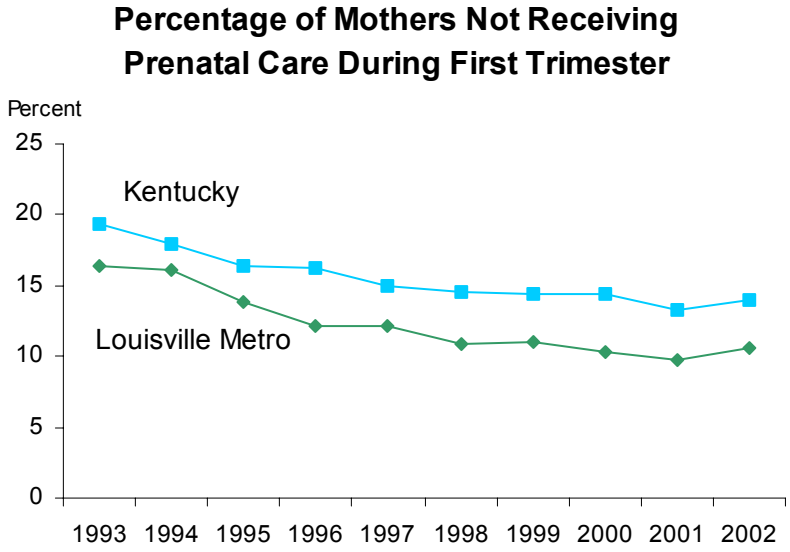
Getting early and regular prenatal care is one of the best ways to promote a healthy pregnancy. Prenatal care often provides an opportunity for education and counseling about how to handle different aspects of pregnancy, nutrition, physical activity, what to expect from the birth itself, and basic skills for caring for the infant.

What is Louisville Metro's status?

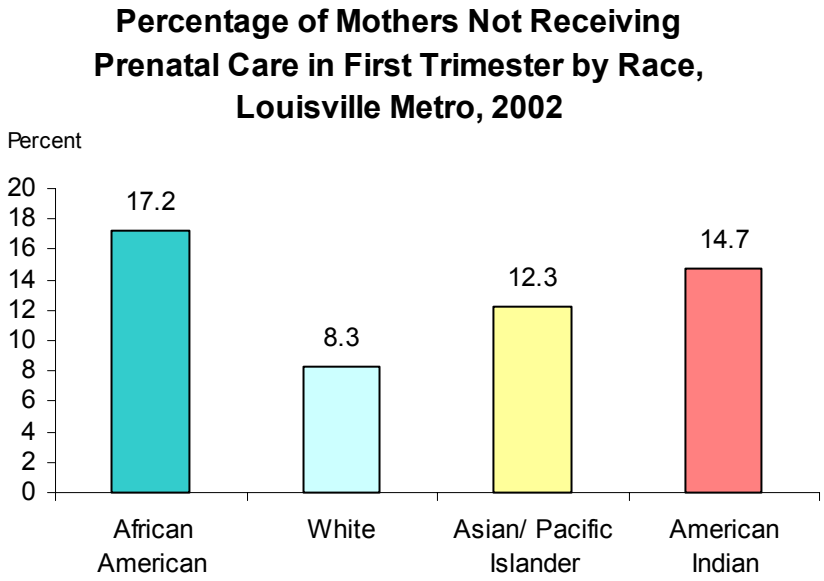
In 2002, 10.6% of the women who gave birth did not receive prenatal care during the first trimester. This percent slightly exceeds the Healthy People 2010 goal of not more than 10% failing to receive prenatal care in the first trimester. Kentucky and the United States both have a higher percentage of mothers not receiving prenatal care in the first trimester (14% and 16.3% respectively).



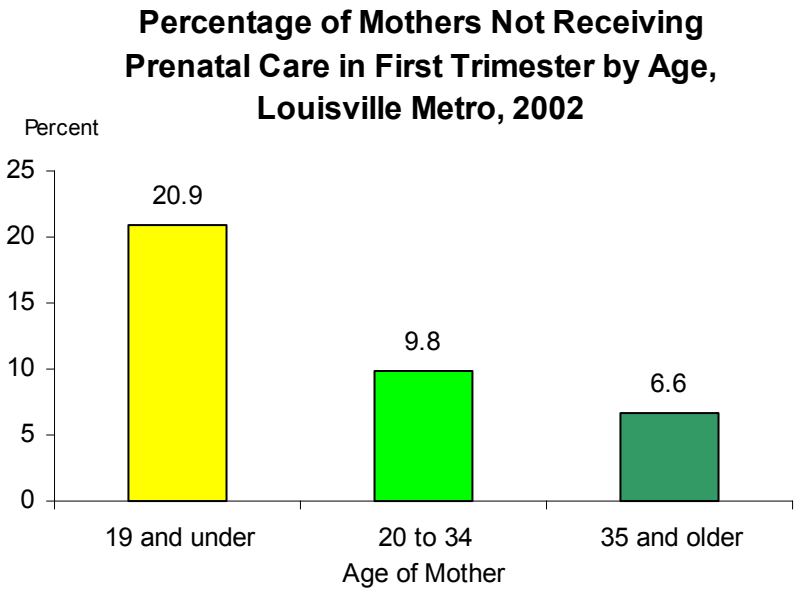
Since 1993, a gradual decline is seen in the percent of mothers not receiving prenatal care in the first trimester in Louisville Metro, indicating an increase in the percent of mothers receiving such care. The proportion of pregnant women not receiving prenatal care in the first trimester decreased from 16.4% in 1993 to 9.8% in 2001. But a slight increase to 10.6% was seen in Louisville Metro in 2002. A similar trend was observed at the state level but the percentage of mothers not receiving prenatal care in first trimester was consistently higher in Kentucky and the United States compared to Louisville Metro.



In 2002, Whites had the lowest rate of late or no prenatal care (8.3%), followed by Asian/ Pacific Islanders (12.3%). The percent for American Indian women was 14.7% followed by African American women who had the highest rate of 17.2% not receiving prenatal care in the first trimester.



Teenagers, nineteen years of age or younger, were least likely to receive prenatal care during the first trimester, with 20.9% not receiving such care. Women 35 years of age and older were most likely to receive timely prenatal care, with only 6.6% not receiving care during the first trimester.


Percentage of Mothers Not Receiving Prenatal Care in First Trimester by Age, Louisville Metro, 2002
Percent
25
20
15
10
5
0
20.9
9.8
6.6
19 and under
20 to 34
35 and older
Age of Mother

Birth to Teens

What is it?

The teen birth rate is defined as the number of live births per 1,000 women 15 to 19 years of age. Teen pregnancy rates are different than teen birth rates. The pregnancy rate is based on the number of live births, induced abortions and fetal deaths combined.[10] The birth rate is based on live births only.

Why is it important?

Teen pregnancy has consequences for both the mother and child. Teen mothers face higher risks of complications in childbirth and their infants are at greater risk for preterm birth, low birth weight, death during the first year of life, and developmental problems. Pregnancy at such an early age can interfere with a young woman's development and limit her education and life opportunities.

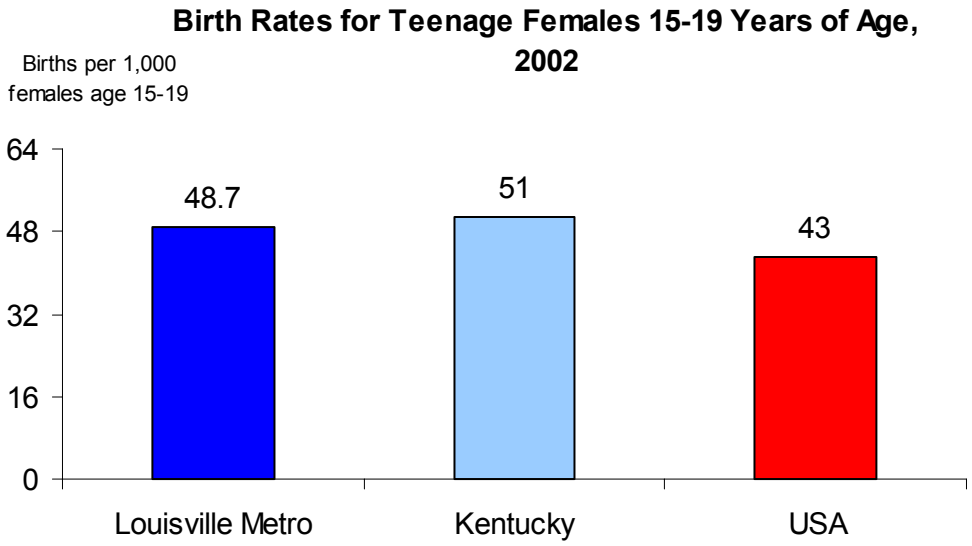
Teen parenthood is a predictor of future economic hardship for both parent and child. In addition to poor pregnancy outcomes, these young mothers are less likely to finish high school and are far more likely to be poor than those giving birth for the first time at later ages. Children born to teen mothers are more likely to be poor as children and adults.

The birth rate for teenagers 15 to19 years of age has steadily declined in the United States from 61.8 births per 1,000 females age 15 to 19 in 1991 to 43 births per 1,000 in 2002. Although this trend is encouraging, this teen birth rate remains higher than the rates in other industrialized countries.[10]

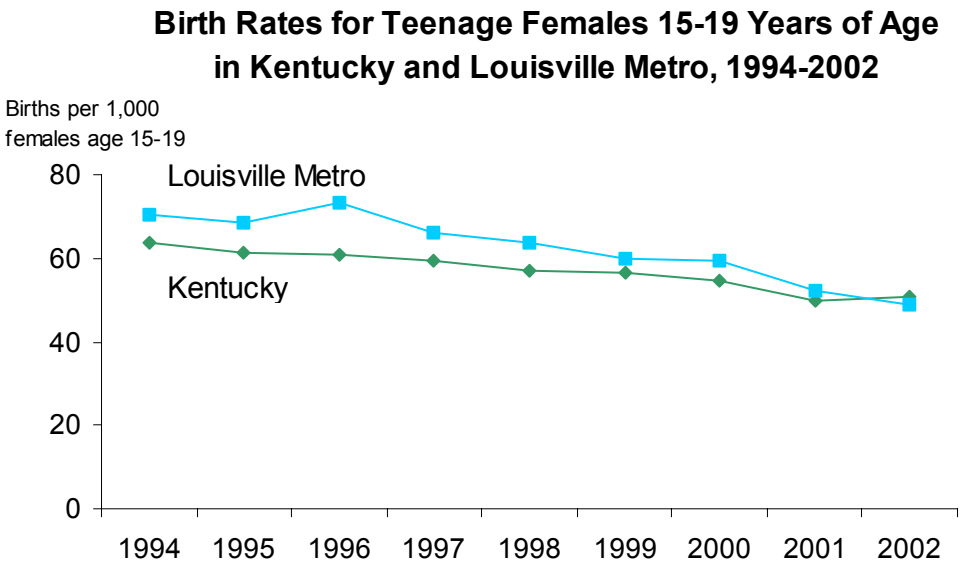
There are some potential risk factors for a teenage women who becomes pregnant. They include early dating behavior; early use of alcohol, tobacco, and/or other drugs; dropping out of school; fewer friends; less participation in school, family, or community activities; perceiving little or no opportunities for success; living in a community or attending a school where early childbearing is common and viewed as normal rather than as a cause for concern; growing up under impoverished conditions; having been a victim of sexual abuse or assault; or having a mother who first gave birth before twenty years of age.[11]

What is Louisville Metro's status?

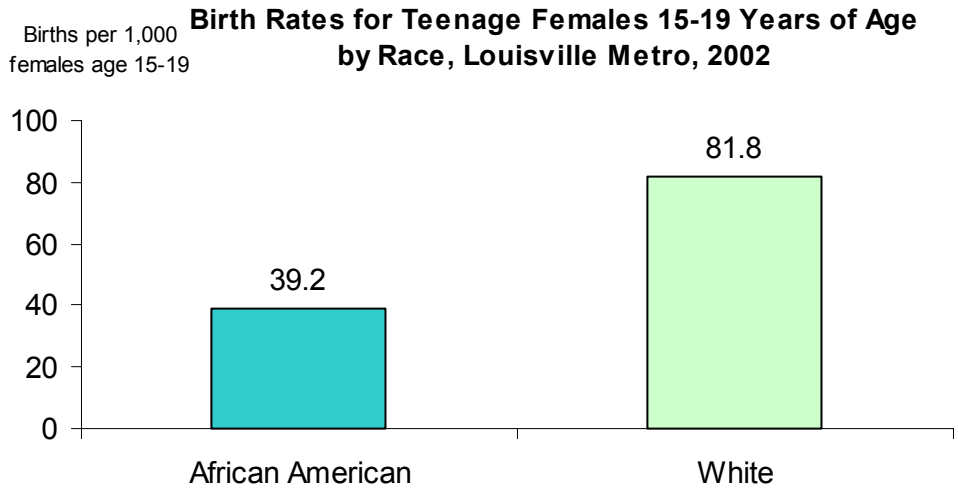
In 2002, the birth rate for teenage females age 15 to 19 years was 48.7 births per 1,000 females age 15 to 19, which is lower than the state rate of 51, but higher than the nation's rate of 43.



Similar to the trend seen in the United States, the teen birth rate among 15-19 year olds in Louisville Metro declined from 1994 to 2002. A 31% decline in the teen birth rate was observed in Louisville Metro during this time period.



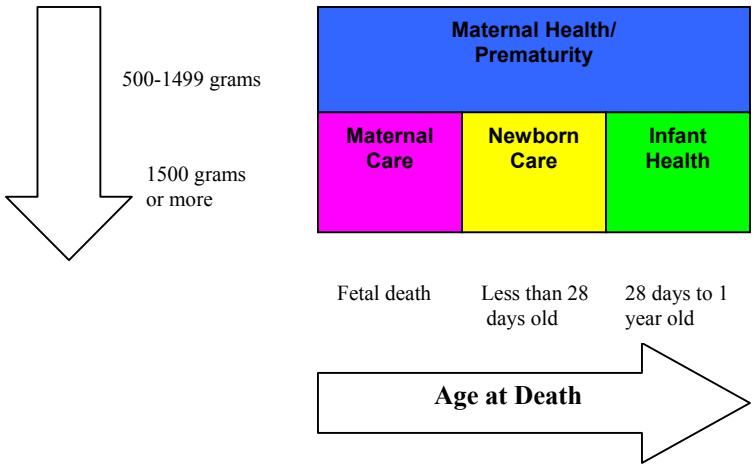
White females 15 to 19 years of age had the highest teen birth rate in Louisville Metro (81.8 per 1,000). This rate was over two times higher than African American teen females (39.2).


Births per 1,000 females age 15-19
Birth Rates for Teenage Females 15-19 Years of Age by Race, Louisville Metro, 2002
100
80
60
40
20
0
39.2
81.8
African American
White

Perinatal Periods of Risk (PPOR)

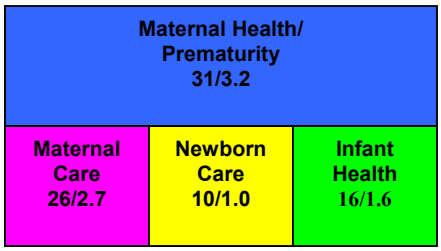
A new analysis known as PPOR (Perinatal Periods of Risk) was developed to provide additional information on fetal-infant mortality. Since fetal development is a continuum that runs from conception to the first birthday, the PPOR approach helps in creating fetal-infant mortality maps based on the age at which the infant dies and the birth weight at the time of death.

The approach divides fetal-infant mortality into four strategic prevention areas: maternal health/prematurity, maternal care, newborn care, and infant health. The four groups are given labels that suggest the focus of activities to prevent these deaths.



According to the analysis, most deaths during 2002 were in maternal health/prematurity area (31 deaths) followed closely by maternal care area (26 deaths). This helps us identify areas to target prevention activities.

Overall Rates and Distribution of Fetal- Infant Mortality in Louisville Metro, 2001



What are we doing?

The Louisville Metro Health Department has several programs that provide services for women, infants and children.

HANDS (Health Access Nurturing Developing Services) is a voluntary, intensive home visitation program designed to assist parents at critical development points during their child's first two years of life. It targets first time parents, from the prenatal period to approximately two years after delivery. The program's goal is to assist with child development, parenting skills, health services and other needed resources.

Healthy Start is a federally funded initiative that seeks to reduce infant mortality (the rate at which children die before their first birthday) in targeted areas of west Louisville. Infant mortality rates in these areas range higher than those of Louisville Metro as a whole. The main objective of this initiative is to improve health and social services care coordination for childbearing women and their families living in the project area by providing culturally competent case management services. Healthy Start aims to improve pregnancy outcomes to pregnant women by making sure that women receive adequate prenatal care and support during their pregnancy.

First Steps identifies and coordinates the care of children from birth to three years of age, who have a developmental delay or a specific medical condition that causes a developmental delay.

Healthy Child Care program provides consultation and classes, by Health Department Registered Nurses, to Child Care providers, children and parents in Louisville Metro, on health, safety and nutrition issues.

EPSDT (Early, Periodic, Screening, Diagnosis, and Treatment Program) is for all children who get Medicaid. Members from birth to age 21 years are eligible for EPSDT services. The EPSDT program checks children for medical problems early. These checkups make sure that the children are growing up healthy. If a doctor finds a problem, it is treated and monitored. EPSDT experts also monitor the child's immunization status and update as needed.

Project Link provides education, counseling, and case management to women who use alcohol and other drugs while pregnant.

Through the **Teen Pregnancy Prevention Program**, the Louisville Metro/Louisville Metro Health Department:

- Offers Family Planning classes at all of our clinic and partner sites. The Department also provides the Brown Bag Condom Distribution Program to the entire community through various sites. Condoms are distributed on an as needed basis to community agencies and businesses that have high, volume teen clientele.
- Provides grant to Louisville Metro Public schools to provide PSI (Postponing Sexual Involvement) and RTR (Reducing The Risk) curriculum to students. These curriculum

assist students in making good relationship choices and healthy choices about their bodies.

- Sponsors and facilitates a teen board known as STOPP (Students Taking On Pregnancy Prevention) for high school students. This board educates peers on pregnancy prevention and healthy choices.
- Partners with the Metro Department for Human Services to provide the TYPE (Teen Youth Program of Encouragement) to area middle school students to promote abstinence and healthy decision-making.
- Partners with Planned Parenthood to provide training/stipend to youth who go out in the community and educate their peers in pregnancy prevention, healthy decision-making and disease reduction issues.
- Provides funding to the Teen Pregnancy Prevention Intervention Clinic. This clinic provides family planning and other services solely to youth in the Metro area.
- Provides resource materials including pamphlets, videos, an Empathy Belly and Baby Think It Over Dolls to help community groups and individuals make informed choices about their health.

Family Planning provides individuals the information and means to exercise personal choice in determining the number and spacing of their children. Louisville Metro Health Department has five clinics that provide annual Pap smears, clinical breast exams, sexually transmitted disease screening and treatment, various methods of birth control on site and IUD insertion/removal and sterilization by referral. Basic fertility counseling is available by referral. University GYN/OB Foundation, Planned Parenthood of Louisville and Family Health Centers (4 locations) are partners with LMHD. These partners receive Title X money through the LMHD to also provide the previously listed services

Infant Car Safety Seat Programs includes education and free car seats for parents who cannot afford to purchase their own.

Clinical services include services provided in the Women, Infants, and Children Supplemental Nutrition Program (WIC). In addition the Tuberculosis (TB) clinic provides diagnosis with x-ray, surveillance, and treatment services with direct observed therapy. Tuberculosis skin tests are available at all health centers.

The **Office of Vaccines and Immunizations** conducts surveys of all day care facilities and schools in the Louisville Metro annually and conducts on-site audits at the request of and in collaboration with the Kentucky State Immunization Program regarding childhood immunizations.

Mothers who are **Hepatitis B positive** during the perinatal period receive counseling and education regarding their Hepatitis B status. Newborns are administered Hepatitis B vaccine and Hepatitis Immunoglobulin at birth. These infants are followed to ensure that they complete the Hepatitis B series and obtain serology to assess if they have sero-converted.

Laboratory Services include but are not limited to diagnostic tests:

- Blood lead level

- Syphilis
- Gonorrhea
- Chlamydia
- Sickle Cell
- Tuberculosis
- Urine toxicology

PPOR (Perinatal Periods of Risk) Analysis is an approach promoted by CityMatCH in partnership with CDC (Centers for Disease Control and Prevention), HRSA/ Maternal and Child Health Bureau and March of Dimes to monitor and investigate fetal-infant mortality. The approach divides fetal-infant mortality into four strategic prevention areas: maternal health/prematurity, maternal care, newborn care, and infant health. PPOR mapping of fetal-infant mortality enables communities to identify and further investigate areas in which there are the greatest opportunities for local impact. The Louisville Metro Health Department is using this approach to mobilize and focus fetal and infant mortality to prioritize prevention efforts. The PPOR is being used in concert with other proven tools that are already in place (e.g., Healthy Start initiatives, Child Death Review). Using linked birth-death files combined with fetal death data, communities can identify in which "periods of risk" there are greatest disparities.

Sudden Infant Death Syndrome remains a problem in our community. The Health Department continues to be involved in supporting the SIDS "Back-to Sleep" campaign. In addition, we have been actively involved in the development of a "Co-Sleeping" educational awareness campaign to be piloted in Louisville Metro to promote safe sleeping habits for infants and prevent infant deaths caused due to co-sleeping.

What else do we need to do?

The Health Department has been working on reinvigorating the Fetal Infant Mortality Review (FIMR) team to research the causes of fetal loss and infant death in the community. When there is a death, a FIMR nurse interviews the family and abstracts information from medical records. Then the FIMR team, composed of medical providers, discusses the findings. Summary and trend information are then provided to a community action team to address appropriate prevention and intervention strategies. FIMR will enhance the PPOR approach to decrease the disparities observed in infant mortality. The Kentucky Department of Public Health is working with the Louisville Metro Health Department to direct increased efforts toward a stronger FIMR program.

References

1. Arias E, Anderson RN, Kung HC, Murphy SL, Kochanek KD. Deaths: Final data for 2001. *National Vital Statistics Reports,* 52(3). 2003

2. Kochanek KD and Smith BL. Deaths: Preliminary Data for 2002. *National Vital Statistics Reports,* 52(13). 2004

3. Anderson RN and Smith BL. Deaths: Leading Causes for 2001. *National Vital Statistics Reports,* 52(9). 2003

4. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health*. 2 vols. Washington, DC: Government Printing Office, 2000.

5. Centers for Disease Control and Prevention. Infant mortality and low birth weight among black and whit infants ---United States, 1980-2000. *Morbidity and Mortality Weekly Review,* 51(27): 589-592. 2002.

6. Vohr BR, Dusick A, Steichen J, Wright LL, Verter J, Mele L. Neurodevelopmental and Functional Outcomes of Extremely Low Birth Weight Infants in the National Institute of Child Health and Human Development Neonatal Research Network, 1993-1994. *Pediatrics,* 105(6): 1216-1226. 2000.

7. U.S. Department of Health and Human Services. *Healthy People 2000.* Washington, DC: Government Printing Office, 1990.

8. Hogan VK, Richardson JL, Ferre CD, Durant T, Boisseau M. A public health framework for addressing black and white disparities in preterm delivery. *Journal of American Medicial Women's Association,* 56(4): 177-180. 2001.

9. Alexander GR and Kotelchuck M. Quantifying the adequacy of prenatal care: A comparison of indices. *Public Health Reports,* 111(5): 408-418. 1996.

10. Hamilton BE, Martin JA, and Sutton PE. Births: Priliminary data for 2003.*National Vital Statistics Reports,* 53(9) 2004.

11. US National Library of Medicine and the National Institutes of Health. Medline Plus, Medcal Encyclopedia, Adolescent pregnancy. <http://www.nlm.nih.gov/medlineplus/ency/article/001516.htm#Definition>. 30 July 2004

Causes of Death

Death (mortality) rates and the causes of death are indicators of our health status and how well our health care system is responding to the current health problems. In the United States over the last century, life expectancy improved from 47 years in 1900 to 77.3 years in 2002.[1] In the early part of the century, health issues and deaths were mainly associated with injuries, sanitation, and communicable diseases. The development of vaccines and improved sanitation increased life expectancy. With people living longer, their diet, level of activity, and the quality and frequency of seeking preventive health services began to play a larger part in their health status and life expectancy. The focus of public health is shifting to address these risk factors and the management of chronic diseases.

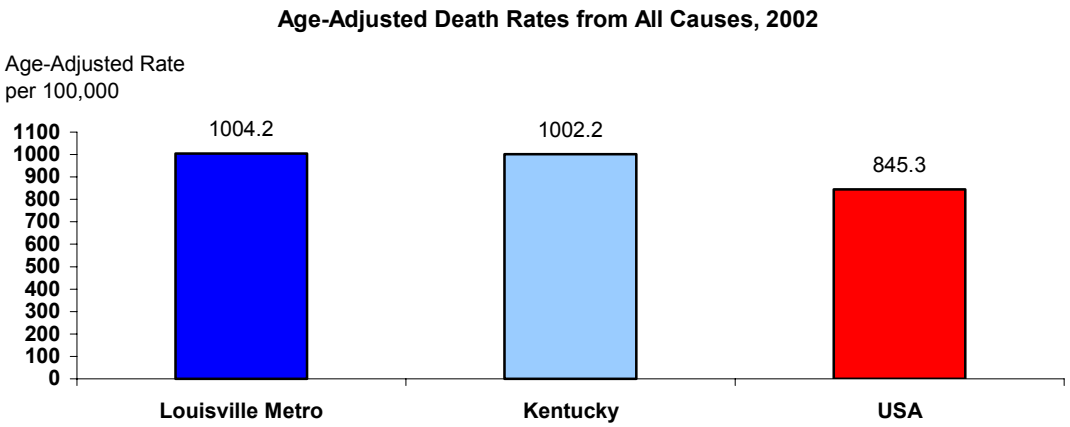
Death Rates from All Causes

Why is it important?

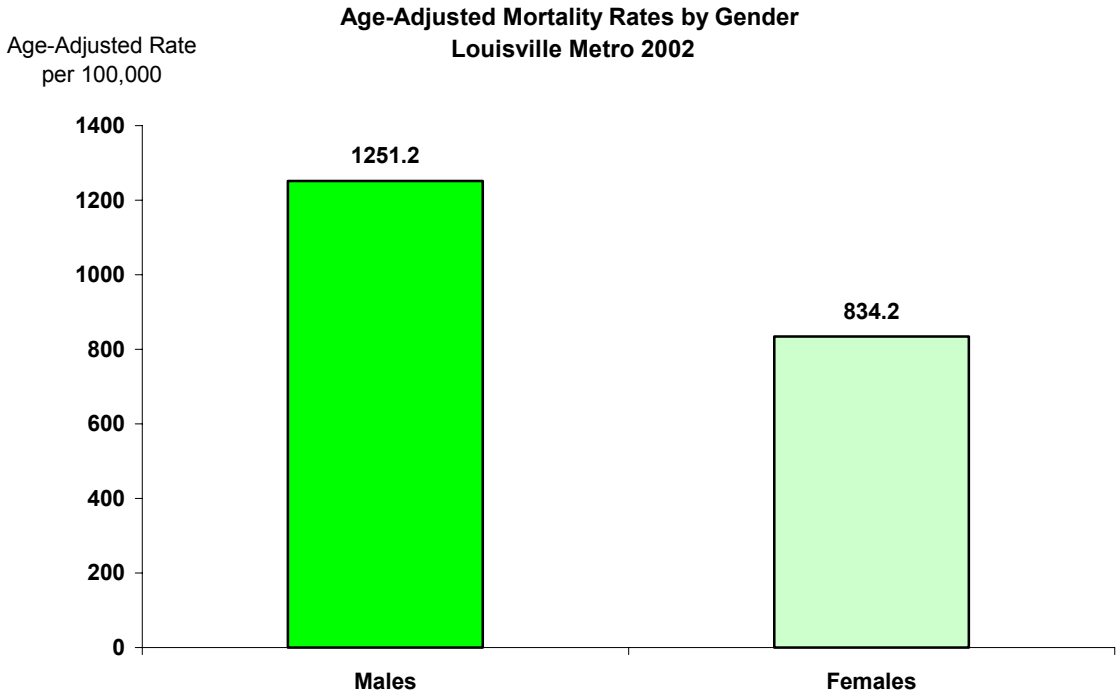
An examination of the rate of death in Louisville Metro is an important way to assess our health status. Comparing our rate to the rate of the United States provides a context for understanding our death rate. Looking at differences by race and gender (health disparities) will help us identify groups who have more difficulty achieving optimal health and will assist us in meeting the health care needs of the entire community.

What is Louisville Metro's status?

The total number of deaths in Louisville Metro in 2002 was 7,238. The age-adjusted death rate from all causes was 1,004.2 per 100,000 population. Our rate was similar to the rate for the Commonwealth of Kentucky (1002.2) [2] but substantially higher than the rate for the nation (845.3 per 1000,000). [3]

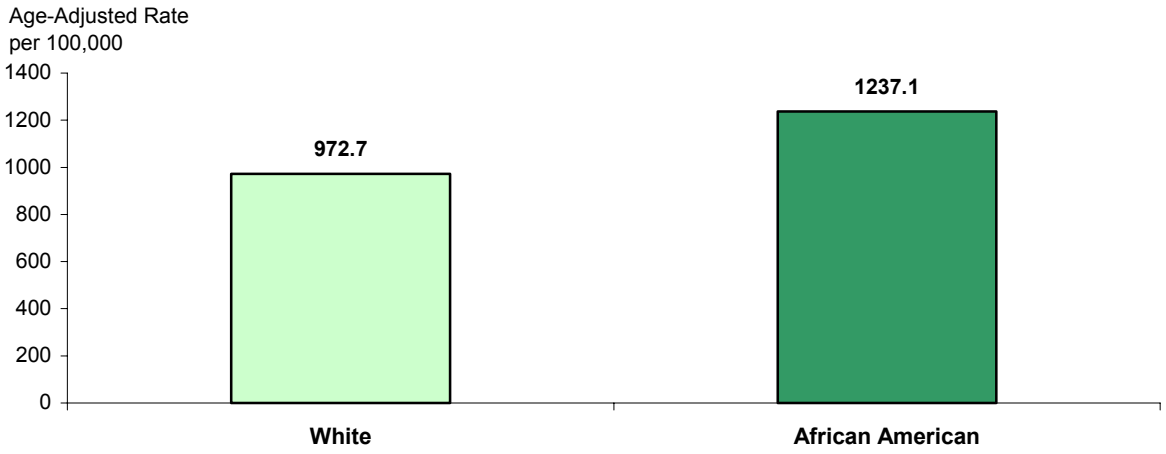


Of the 7,238 deaths in Louisville Metro in 2002, 47.8% (or 3,462 deaths) were males, and 52.1% (or 3,773) were females. The age-adjusted death rate for males was 50% higher than the female rate (1251.2 compared to 834.2 per 100,000 population).



The age-adjusted death rate for death from all causes for African Americans was 1237.1 compared to 972.7 for Whites. The rate for African Americans is 27% higher than the rate for Whites.

Age-Adjusted Mortality Rates from All Causes
Louisville Metro, 2002



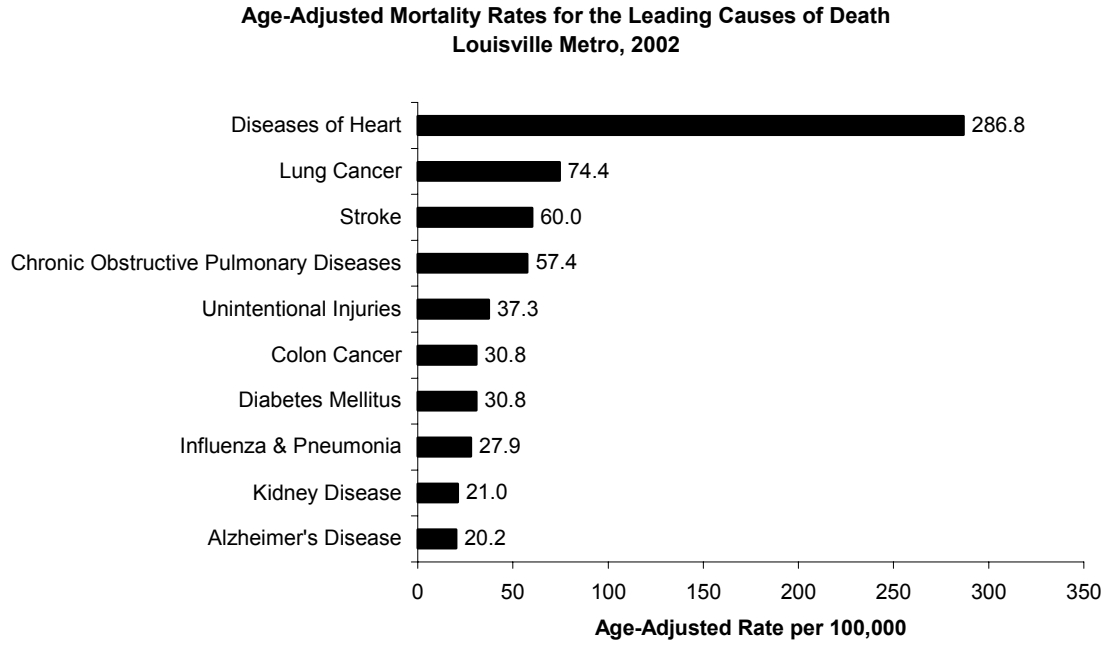
Leading Causes of Death

What are they?

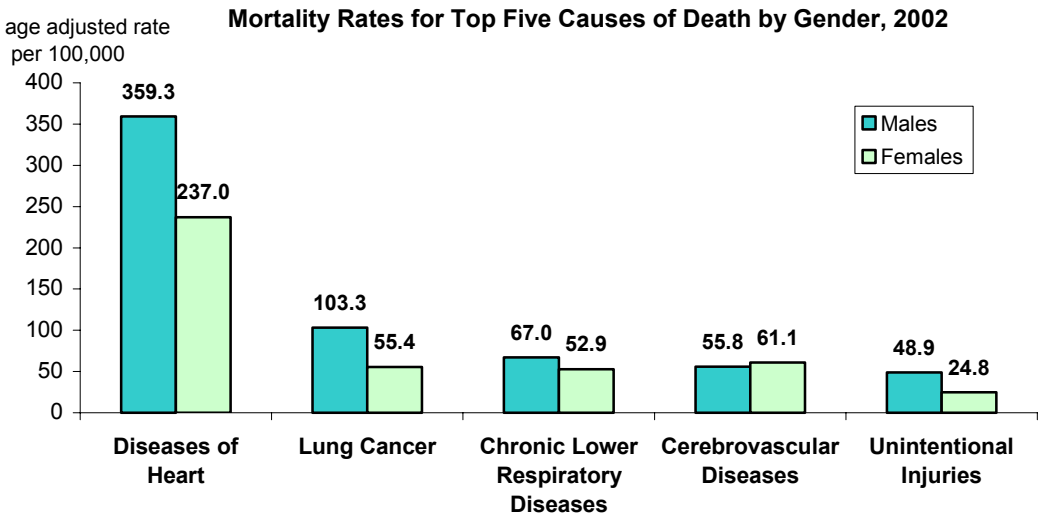
Ranking the causes of death is useful for illustrating the relative burden of death from specific categories of causes of death. Generally accepted categories are used to compute the age-adjusted death rates so that comparisons can be made between Louisville Metro and other communities and groups.

What is Louisville Metro's status?

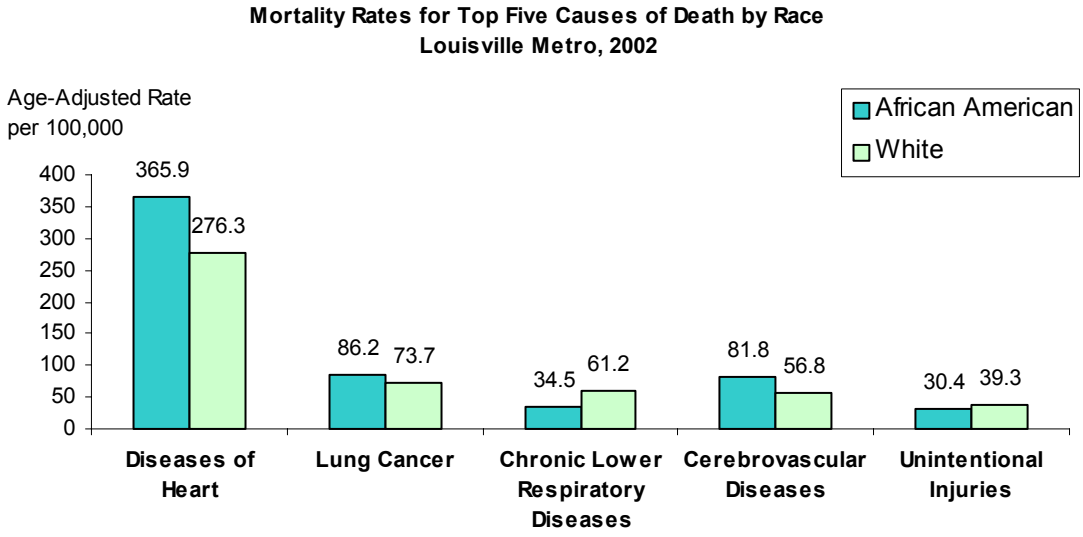
The category of "diseases of the heart" was the number one cause of death in Louisville Metro during 2002, accounting for 28.5% of all deaths. The top four causes of death (diseases of the heart, lung cancer, stroke and chronic obstructive pulmonary disease) account for more than half of the deaths. Accidental deaths, or unintentional injuries, ranked fifth, followed by colon cancer; diabetes; influenza and pneumonia; kidney disease; and Alzheimer's disease. The top five causes of death in Louisville Metro are the same as the top five causes of death for the United States.



Men have higher mortality rates from heart disease, lung cancer, chronic obstructive pulmonary disease and unintentional injuries than women. Women have a higher death rate from stroke when compared to men.



Of the top five causes of death, African Americans have a higher mortality rate from heart disease, lung cancer, and stroke, while Whites have a higher death rate from chronic obstructive pulmonary disease and unintentional injuries.



References

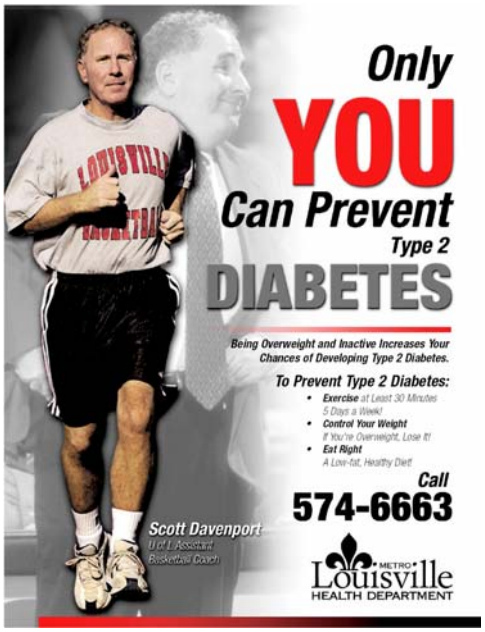
1. Elizabeth Arias, United States Life Tables, 2002. *National Vital Statistics Reports,* 53(6). November 10, 2004.

2. Kentucky Department for Public Health *2002 Annual Report,* Available at: http://chfs.ky.gov/NR/rdonlyres/73893B5F-9DC0-4CB7-BD36-9FC548BE9935/0/02AnnualReport.pdf

3. Kenneth D. Kochanek, Sherry L. Murphy, et al. Deaths: Final Data for 2002. *National Vital Statistics Reports,* 53(5). October 12, 2004.

4. Robert N. Anderson, Betty L. Smith, Deaths: Leading Causes for 2002. *National Vital Statistics Reports,* 53(17). March 7, 2005.

Chronic Diseases



Several of the chronic diseases responsible for the leading causes of death are discussed in this section in more detail. Since they are some of the leading causes of death and potentially impair the health status of affected residents, the Louisville Metro Health Department is increasing its preventive efforts toward chronic diseases and associated risk factors.

Diseases of the Heart

What is it?

Diseases of the Heart include a variety of disorders and conditions that affect the heart. The most common type of heart disease is coronary heart disease (CHD), also called coronary artery disease. There are other types of diseases of the heart besides coronary heart disease such as hypertensive heart disease, rheumatic heart disease, ischemic heart disease, arrhythmia (irregularity in your heartbeats), and cardiomyopathy (enlargement of the heart). But, many deaths classified under “heart disease” are caused by coronary heart disease.

The word 'coronary' means crown, and it is the name given to the arteries that circle the heart like a crown. The coronary arteries supply the heart muscle with oxygen and nutrients. Coronary heart disease develops when one or more of the coronary arteries that supply the blood to the heart become narrower than they used to be. This happens because of a buildup of cholesterol or other fatty substances along the lining of the wall of the blood vessels in the heart, or from a narrowing of the vessel, or both. This impairs the blood flow to the heart muscle.

Why is it important?

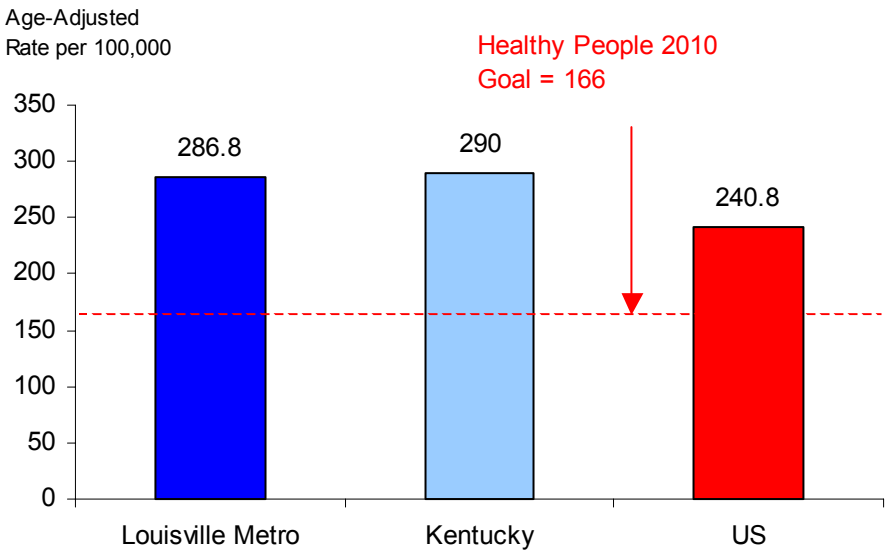
Heart disease is the nation's leading cause of death and coronary heart disease accounts for the largest proportion of heart disease. About 12 million people in the United States have CHD.[1] In general, the heart disease death rate has been consistently higher in males than in females and higher in the African American population than in the white population.[2]

High blood cholesterol and/or triglyceride levels are a major risk factor for coronary heart disease. More than 50 million U.S. adults have blood cholesterol levels that require medical advice and treatment.[3] More than 90 million adults have cholesterol levels that are higher than desirable. Being overweight is also a major risk factor for CHD. Obesity increases blood pressure, blood cholesterol levels, and the risk of diabetes, and may directly contribute to CHD. High blood pressure is another risk factor that strains the heart and increases wear and tear on the blood vessels, making blockage more likely. The Surgeon General of the United States has stated that cigarette smoking is the most important of the known modifiable risk factors for CHD. Nicotine in cigarettes speeds up the heart and also narrows the arteries, making it harder for enough blood to get through. Increased levels of inactivity and stress also contribute to the development of diseases of the heart.

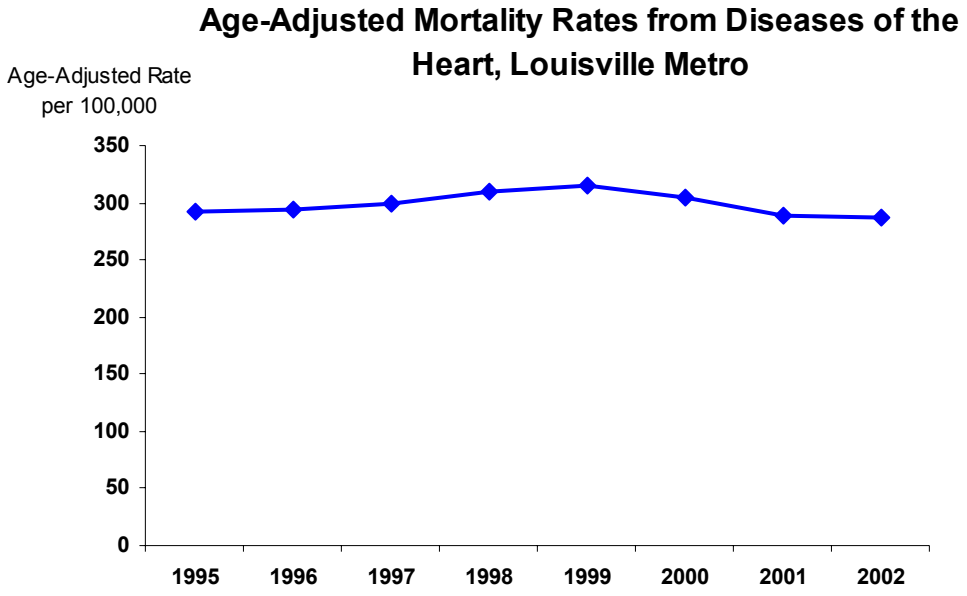
What is Louisville Metro's status?

The age-adjusted rate of death for diseases of the heart in Louisville Metro was 286.8 per 100,000 population in 2002. This rate is lower than Kentucky's rate, but exceeds the US rate and the Healthy People 2010 goal of no more than 166 deaths per 100,000.

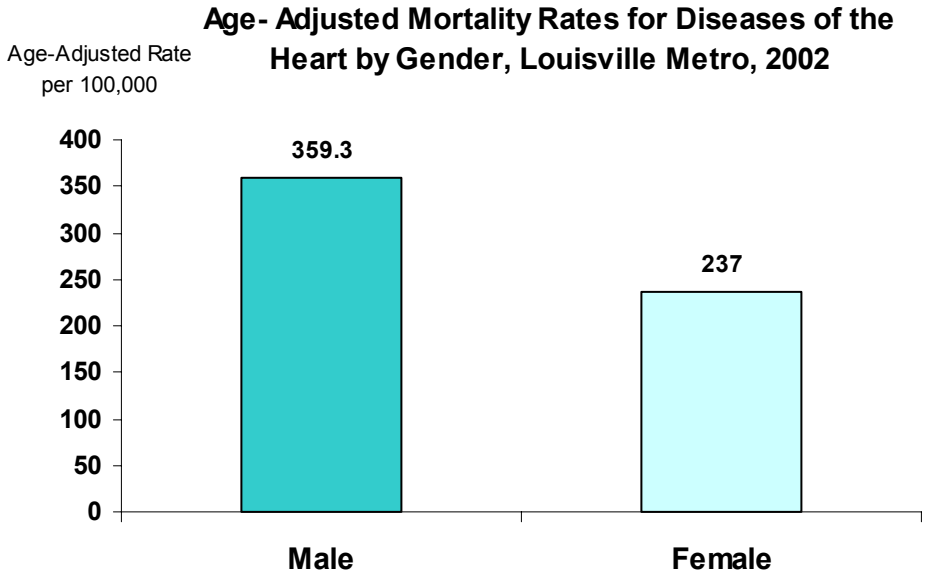
Age- Adjusted Mortality Rates for Diseases of the Heart, 2002



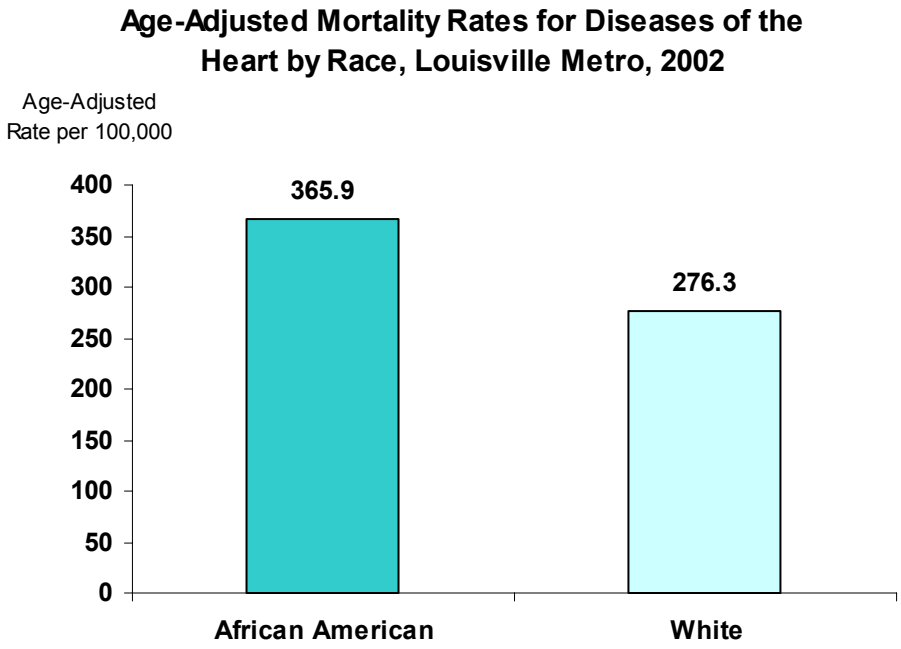
Since 1995, the age-adjusted rates of death for diseases of the heart have remained relatively stable. The death rate was 292.2 per 100,000 in 1995 and 286.8 per 100,000 in 2002.



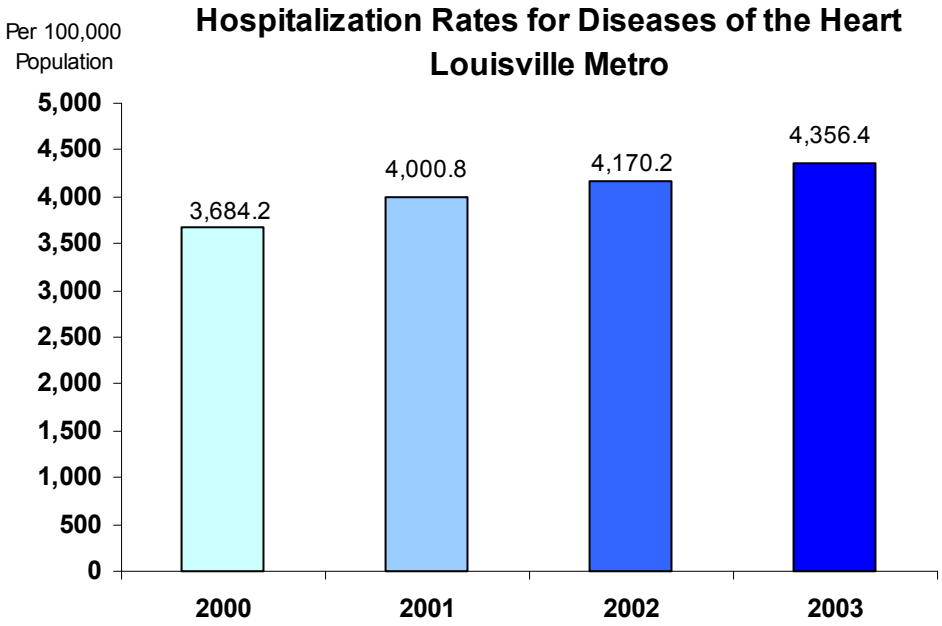
The age-adjusted death rate for diseases of the heart was 52% higher among Louisville Metro males as compared to females (359.3 compared to 237 per 100,000) in 2002.



In 2002, the death rate from diseases of the heart for African Americans was 365.9 per 100,000, over 32% higher than Whites.



Hospitalization rates for Diseases of the Heart have increased every year in the four-year period from 2000 through 2003.



Stroke

What is it?

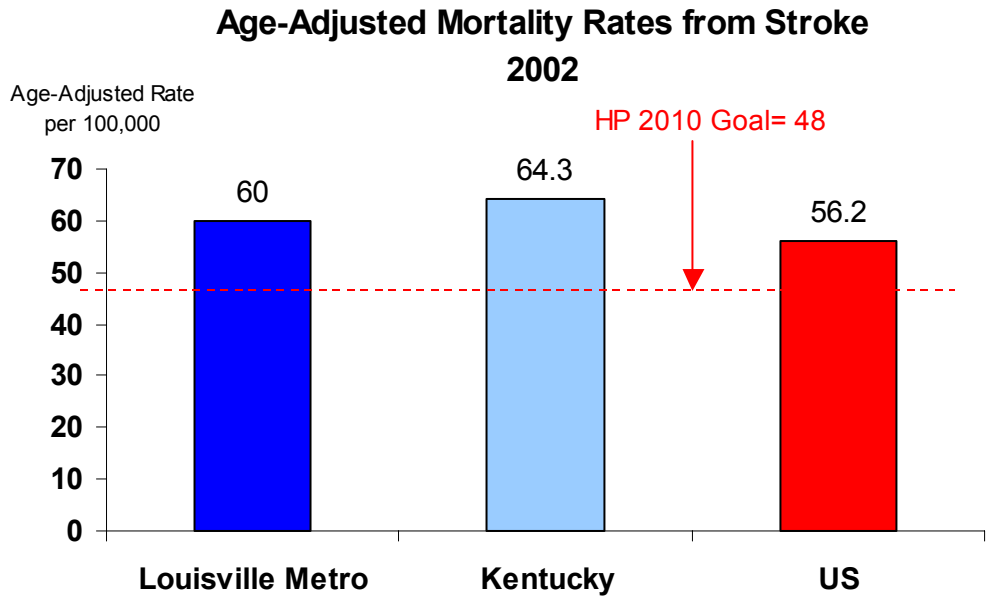
A stroke, also called a "cerebrovascular accident," results from a lack of blood supply to part of the brain. This interruption in blood flow cuts off the supply of oxygen to the cells in that part of the brain, and these cells begin to die.

Why is it important?

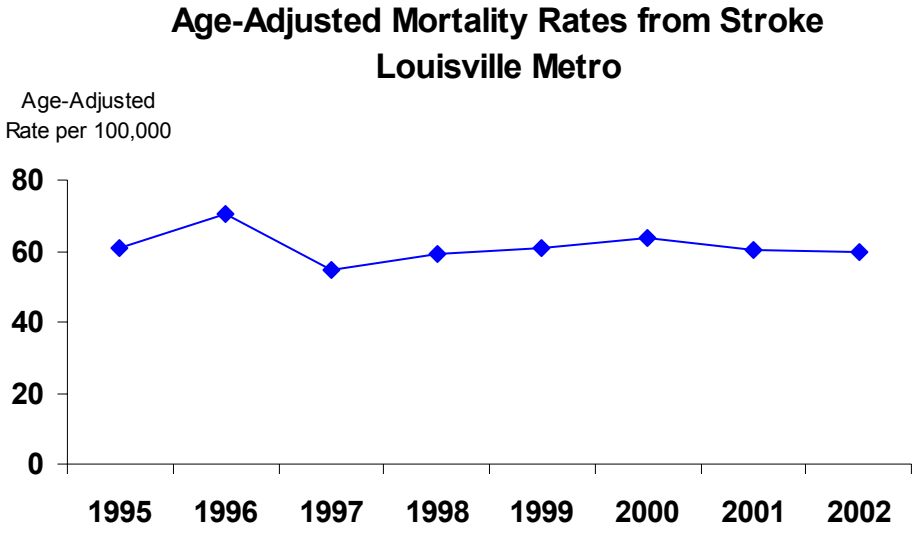
Stroke is the third leading cause of death in the United States. Damage to the brain can cause loss of speech, vision, or movement in an arm or a leg, depending on the part of the brain that is affected. It can even lead to death. Anybody can have a stroke, but certain factors increase a person's risk. Some factors that increase the risk of stroke are increasing age and African American race, as well as diabetes, hypertension (elevated blood pressure), and increased fatty lipids (cholesterol and triglycerides) in the blood. Other risk factors for stroke are smoking, drinking alcohol, being overweight, lack of exercise and poor diet.

What is Louisville metro's Status?

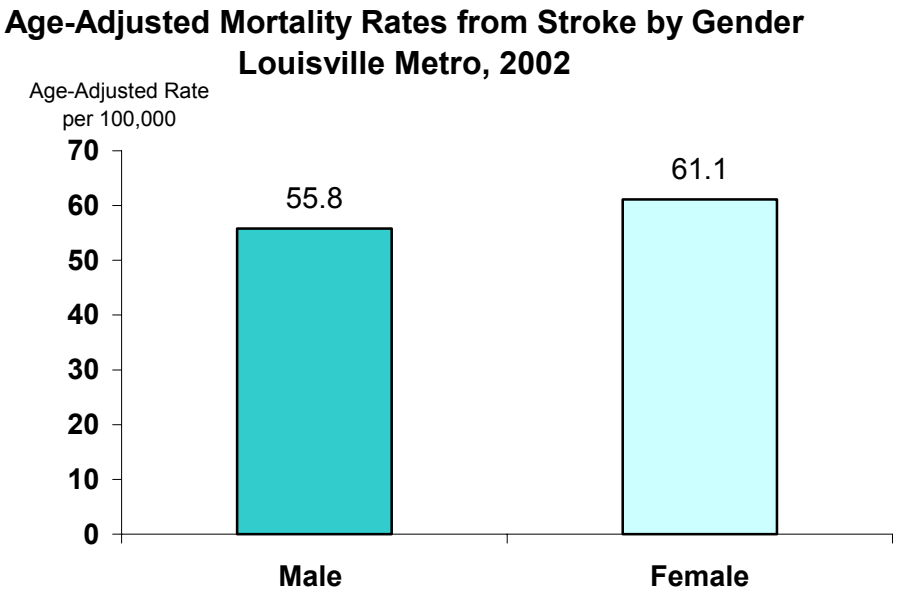
The 2002 age-adjusted rate of death from stroke in Louisville Metro was 60 deaths per 100,000 population. This rate is lower than the state rate of 64.3 deaths per 100,000 but it is higher than the national rate and exceeds the Healthy People 2010 goal of 48 deaths per 100,000.



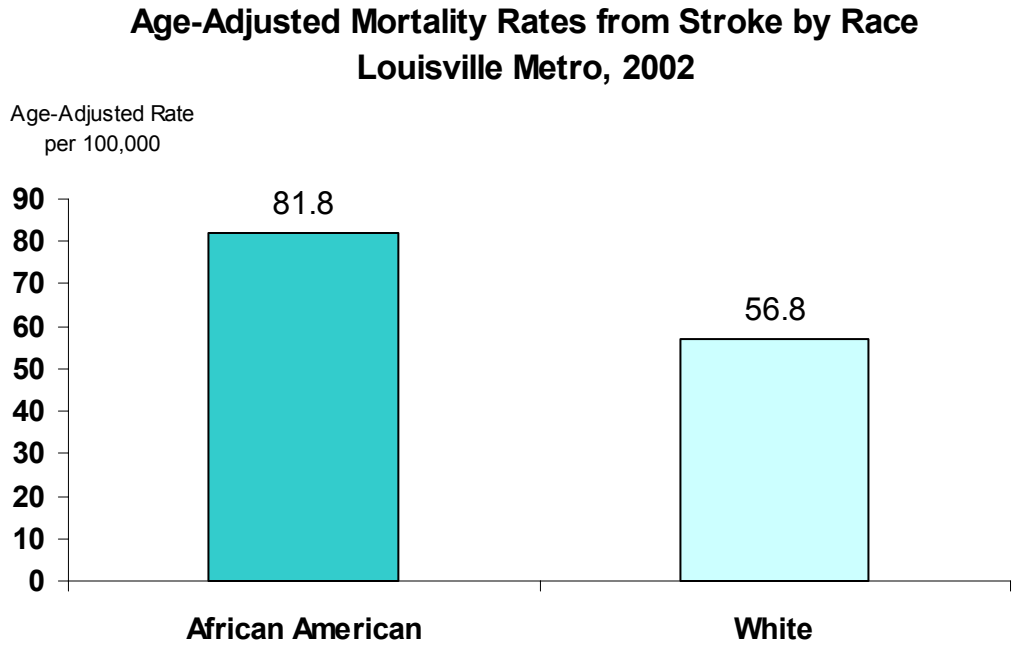
The age-adjusted death rate from stroke has fluctuated in Louisville Metro from 1995 to 2002. However, the rate in 2002 (60 per 100,000) is only slightly below the rate in 1995, which was 60.8 deaths per 100,000.



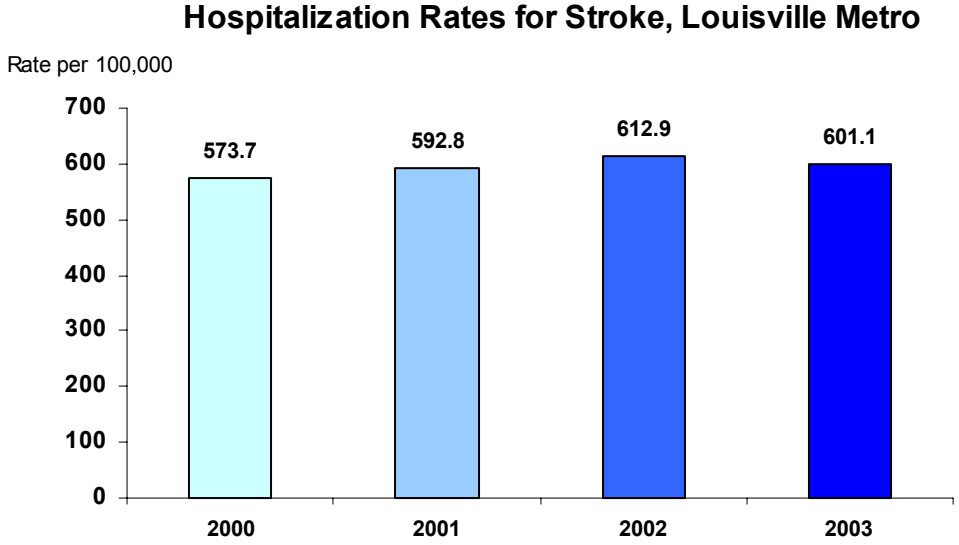
The 2002 age-adjusted death rate from stroke was 10% higher among females than males in Louisville Metro (61.1 compared to 55.8 per 100,000).



In 2002, the age-adjusted death rate from stroke for African Americans was 44% higher than the death rate for Whites (81.8 compared to 56.8 per 100,000).



Hospitalization rates for stroke were higher in 2003 than in 2000. In 2000, the Metro Louisville hospitalization rate for stroke was 573.7 per 100,000 population. In 2003 the rate was 601.1 per 100,000.



Lung Cancer

What is it?

Lung cancer is the uncontrolled growth of abnormal cells in the lung. Cells start multiplying abnormally and form a mass of cells called a tumor. As the tumor grows, it impairs the exchange of oxygen and causes tissue damage.

Why is it important?

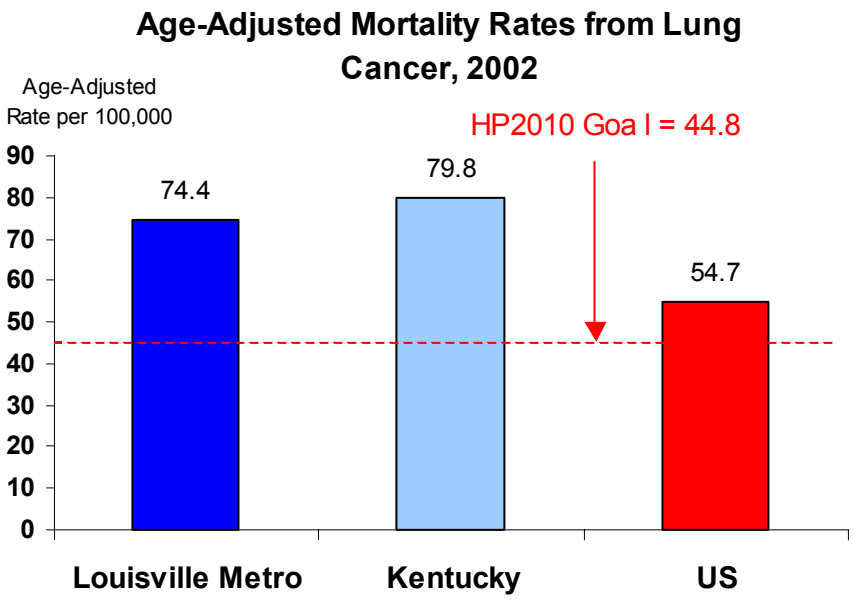
Lung cancer is one of the most common cancers in the United States, accounting for about 15 percent of all cancer cases, or 170,000 new cases each year.[4] At this time, more than half of the lung cancer patients in the United States are in men, but the number of women is increasing and may soon equal that in men. Today more women die of lung cancer than of breast cancer.[5]

National data show that lung cancer is the most common cause of cancer death among both females and males in the United States. Age-adjusted lung cancer death rates are approximately 40 percent higher among African American males than white males. Little difference in age-adjusted lung cancer death rates has been observed between African American females and white females.

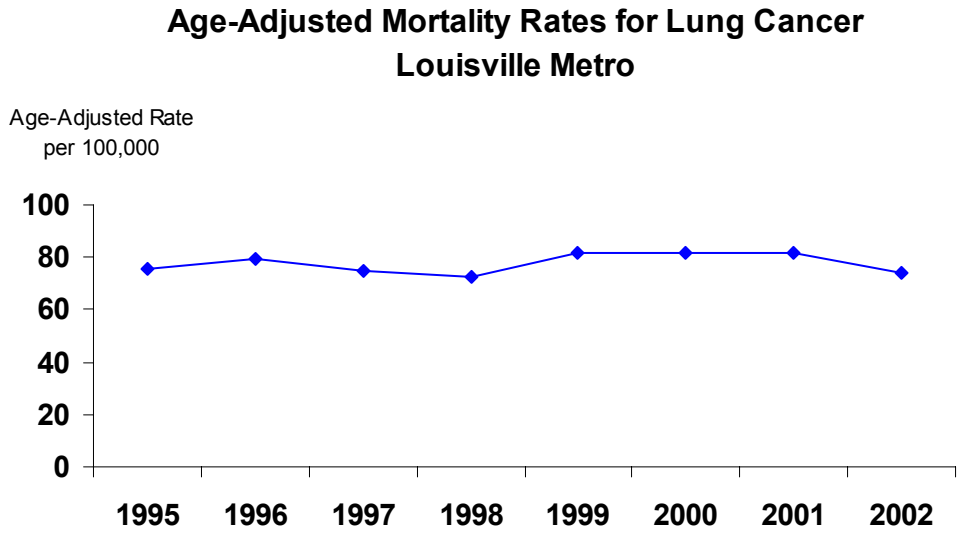
The majority of people who get lung cancer have been cigarette smokers, but not all people who smoke get lung cancer. And, some people who have never smoked get lung cancer. It is estimated that as much as 50 percent or more of cancer can be prevented through smoking cessation and improved dietary habits, such as reducing fat consumption and increasing fruit and vegetable consumption.[6,7]

What is Louisville Metro's status?

The age-adjusted lung cancer death rate in Louisville Metro was 74.4 deaths per 100,000 population in 2002. This is less than the state rate (79.8 per 100,000), but much higher than the national rate of 54.7 and approximately 66% higher than the Healthy People 2010 goal of 44.8 deaths per 100,000.

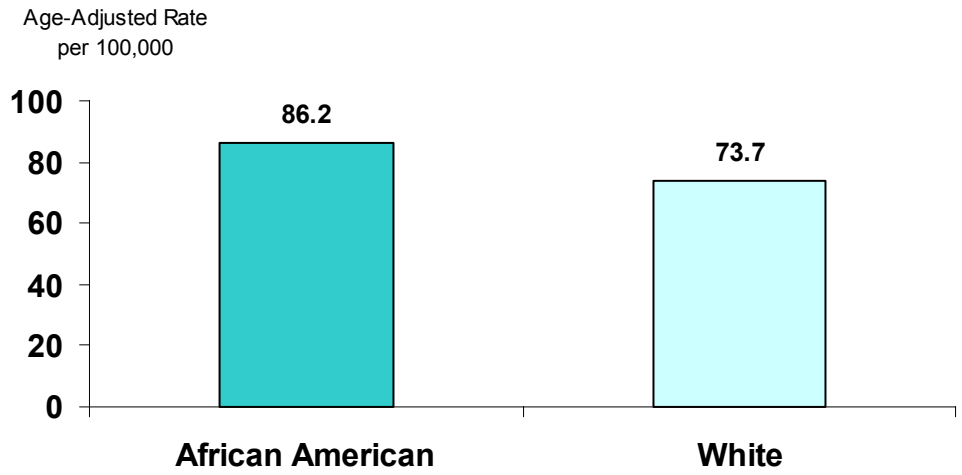


The lung cancer death rate has been fairly consistent over the eight year period from 1995 to 2002. In 1995, the age-adjusted mortality rate for lung cancer was 75.3. In 2002, the rate was 74.4.



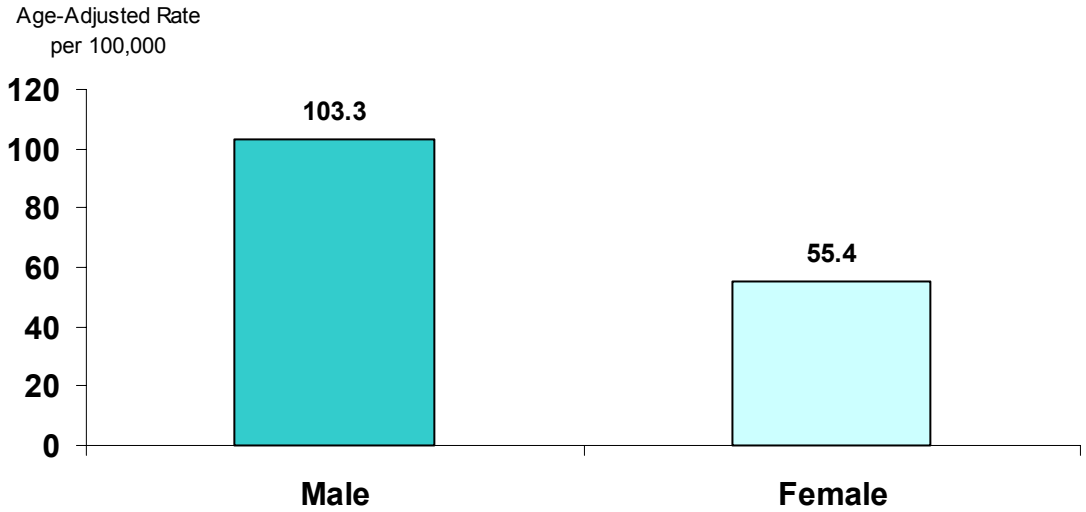
In 2002, the lung cancer death rate for African Americans was 86.2 per 100,000. This is 17% higher than the lung cancer death rate in Whites (73.7).

Age-Adjusted Mortality Rates for Lung Cancer by Race
Louisville Metro, 2002



The lung cancer death rate for males was 103.3 deaths per 100,000, nearly two times higher than the female rate of 55.4.

Age-Adjusted Mortality Rates for Lung Cancer by Gender
Louisville Metro, 2002



Diabetes

What is it?

Diabetes mellitus is a group of diseases (type 1, type 2, and gestational diabetes) characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Insulin is a hormone produced by the pancreas to regulate blood sugar. Type I diabetes, often called juvenile diabetes, usually starts early in life. Type II diabetes, sometimes called adult-onset diabetes, may account for up to 95% of all diagnosed cases of the disease. In people with type II diabetes, the pancreas either produces little or no insulin, or the body does not respond appropriately to the insulin that is produced. Gestational diabetes occurs during pregnancy.

Why is it important?

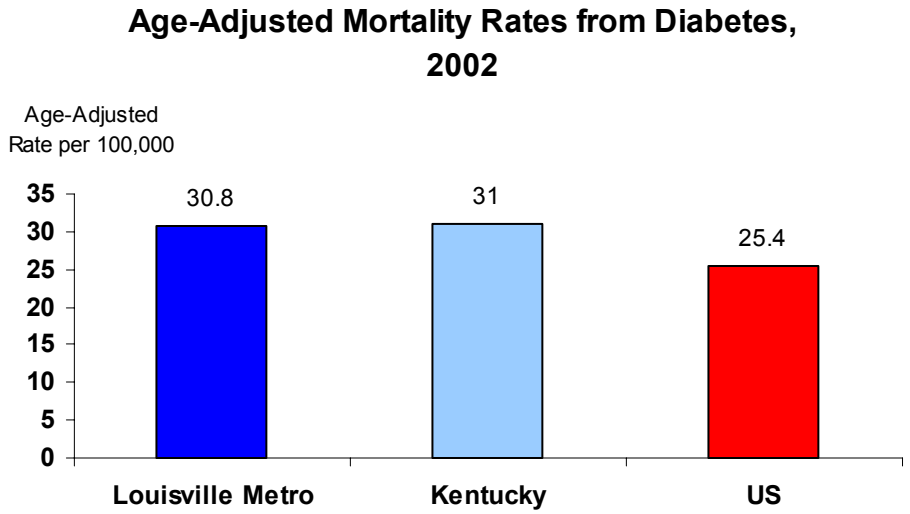
Diabetes poses a significant public health challenge for the United States. Currently nearly 2,200 new cases are being diagnosed per day totaling 800,000 cases per year.[8,9] Diabetes can trigger eye, heart and kidney disease and other life-threatening health conditions. As people with diabetes age, they are even more susceptible to these complications. However, keeping blood glucose, blood pressure and cholesterol levels under control can reduce the chance of disability from those complications.

Over the past decade, diabetes has remained the seventh leading cause of death in the United States, primarily from diabetes-associated cardiovascular disease. The occurrence of diabetes, especially type 2 diabetes, and the occurrence of associated complications, are increasing in the United States. The number of persons with diabetes has increased steadily over the past decade. It is estimated that almost one-third of the total diabetes cases are undiagnosed. This increase in the number of cases of diabetes has occurred particularly within certain racial and ethnic groups.[8]

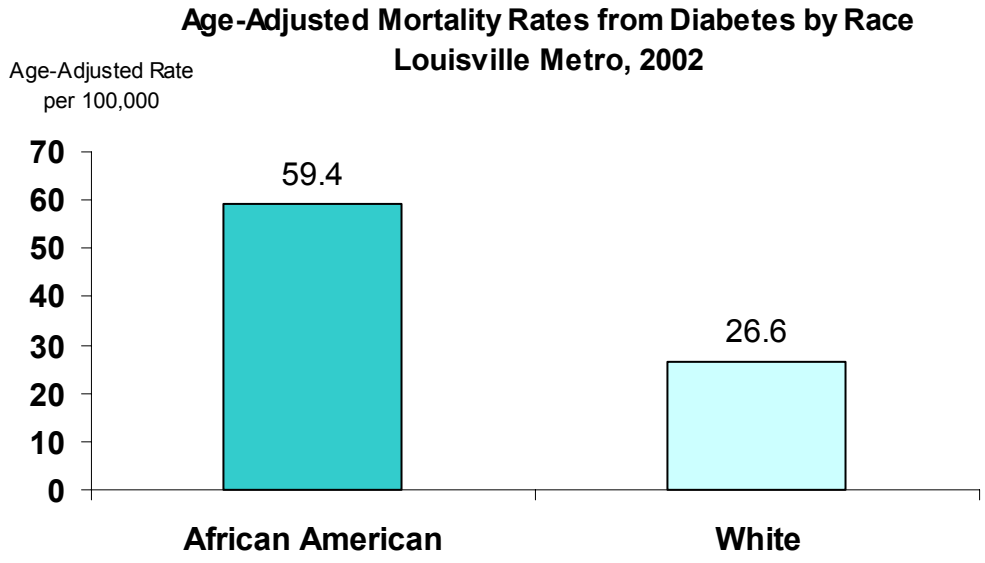
Several factors account for this chronic disease epidemic. These include behavioral factors of increased fat consumption, decreased physical activity, and obesity. Several other interrelated factors influence the present and future burden of diabetes, including cultural and community traditions, and socioeconomic status.

What is Louisville Metro's status?

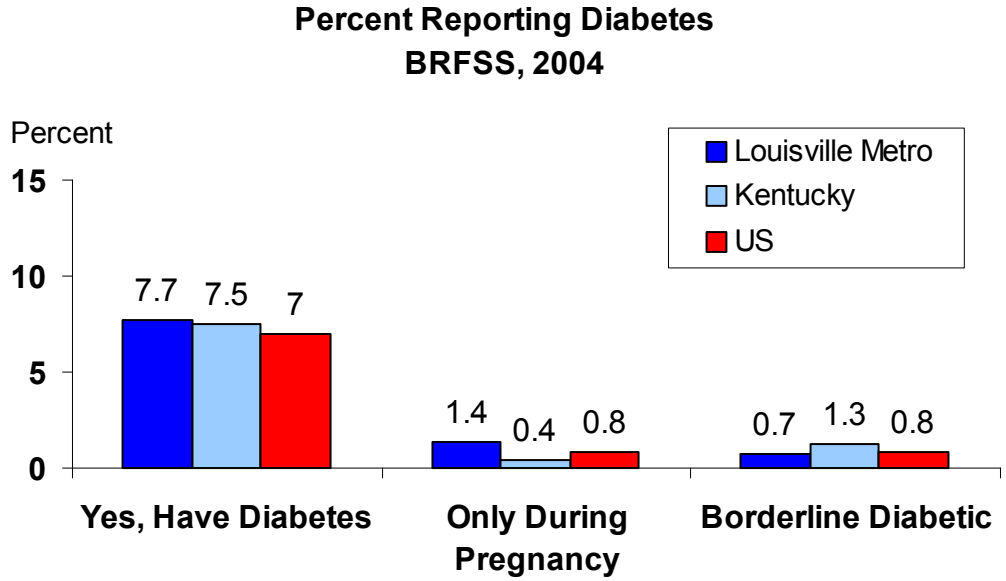
The age-adjusted diabetes mortality rate was 30.8 deaths per 100,000 population for Louisville Metro. This rate is similar to the state rate but higher than the national rate of 25.4 per 100,000.



In 2002, there were racial disparities in the diabetes death rates. The age-adjusted death rate for African Americans was more than double the rate for Whites (59.4 compared to 26.6 per 100,000).

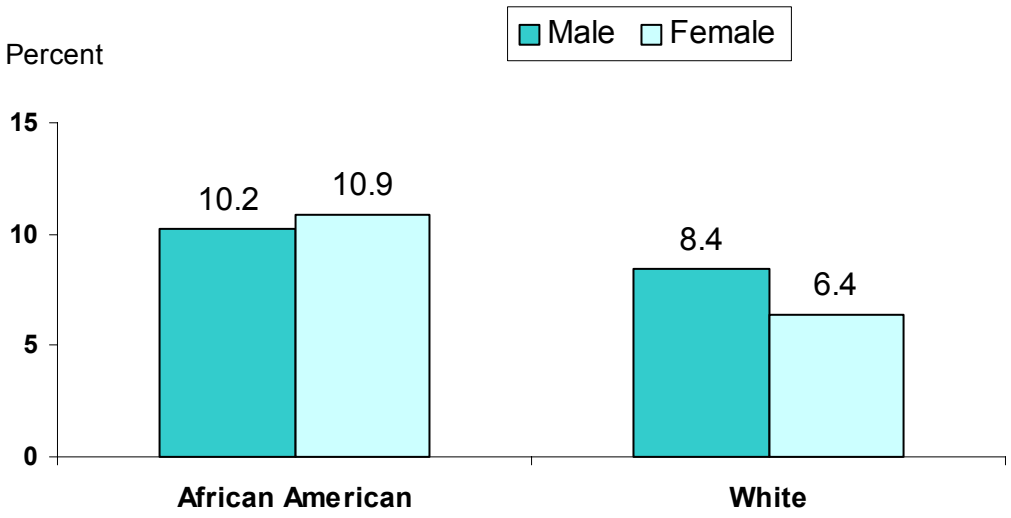


The Behavioral Risk Factor Surveillance System (BRFSS) survey asks participants; "Have you ever been told by a physician that you have diabetes?" The data show that the percent of Louisville Metro residents who report they have diabetes is similar to the percent for the state and the nation (7.7%, 7.5%, and 7.0% respectively). A slightly higher percent of Louisville Metro residents report having diabetes "only during pregnancy" compared to Kentucky and the US.

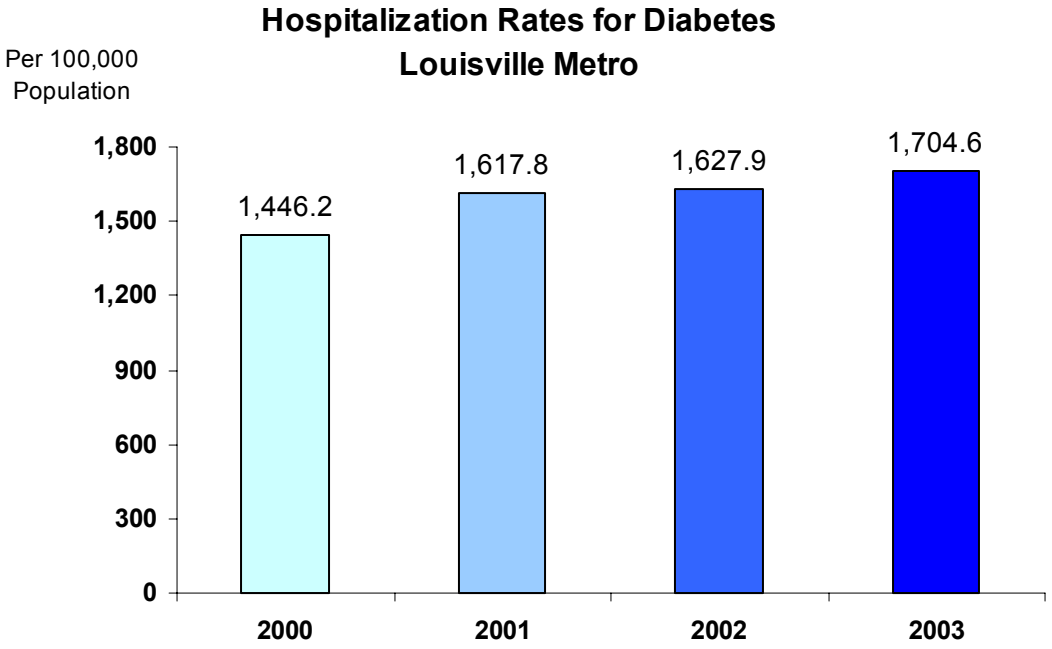


The percent reporting diabetes was higher for African Americans than for Whites in Metro Louisville. The highest percent was reported by African American females (10.9%), followed by African American males (10.2%). Whites males reported 8.4% and White females 6.4%. African Americans have both a higher death rate from diabetes and a higher reported incidence of the disease.

Percent Reporting Diabetes by Race and Gender
Louisville Metro, 2004



Hospitalization rates for diabetes are increasing in Metro Louisville. In 2003, the hospitalization rate for diabetes was 1,704.6 per 100,000, which is up from 1,446.2 per 100,000 in the year 2000.


Hospitalization Rates for Diabetes
Louisville Metro
Per 100,000
Population
1,800
1,500
1,200
900
600
300
0
1,446.2
1,617.8
1,627.9
1,704.6
2000
2001
2002
2003

Behavioral Risk Factors

What is it?

All of the chronic diseases discussed in this section have certain risk factors associated with them. Some of these risk factors can be decreased by changes in the lifestyle of individuals. The Louisville Metro Health Department conducted a Behavioral Risk Factor Surveillance System (BRFSS) phone survey in 2004 to gather information about these risk factors for Louisville Metro (LM) residents. The questions are standardized questions approved by the Centers for Disease Control and Prevention and used throughout the United States. People are selected for interviews by random dialing of phone numbers and remain anonymous.

Why is it important?

Gathering information on factors that affect health is essential to promoting optimal health for LM residents. Identification of these risk factors in the population helps the health department in planning and implementing programs that will improve the health of community residents.

Amount of Exercise
When you are inactive, your blood circulation is less efficient. Moderate exercise can help keep blood pressure and cholesterol levels within normal ranges thereby reducing the risk of heart disease, stroke, and diabetes. If you eat the same calories in your diet but decrease your level of activity as you get older, your weight will increase. A moderate activity level is needed to maintain a healthy weight.

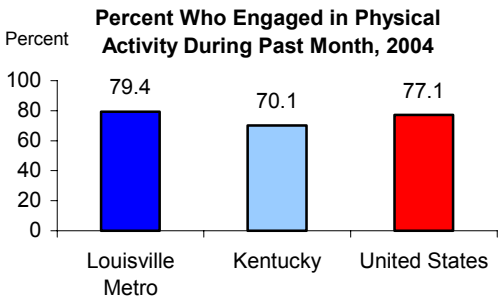
Cigarette Smoking
Cigarette smoking has been linked to heart attacks, strokes, artery disease in the legs, and lung cancer. Nicotine raises blood pressure, carbon monoxide reduces the amount of oxygen the blood can carry to the brain, and cigarette smoke makes the blood thicker and more likely to clot. Secondhand smoke also can result in the same problems for the person inhaling the smoke from smokers. Giving up smoking is definitely a lifestyle modification that will reduce the risk of these chronic diseases.

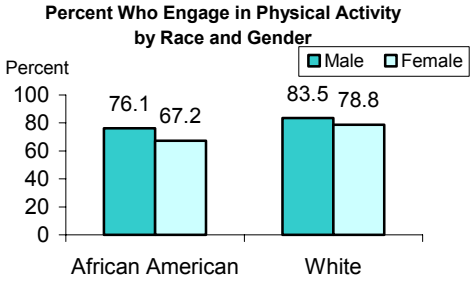
Obesity and Overweight
Being overweight increases your risk of having a stroke, heart disease, high blood pressure and type 2 diabetes.

Nutrition
A diet high in fat and cholesterol increases the risk of heart disease, stroke and diabetes. For optimal health, it is recommended that you eat five or more servings of fruits and vegetables every day.

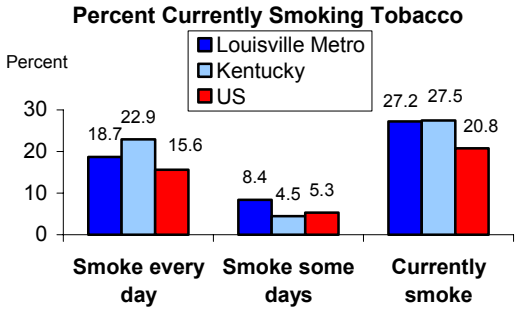
What is Louisville Metro's Status?

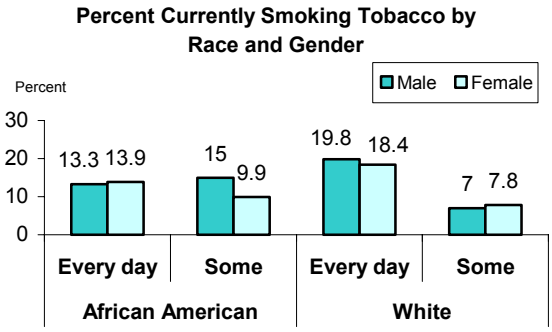
The BRFSS survey asked respondents if during the past month they participated in any physical activities or exercise such as running, golf, gardening, or walking other than their regular job duties. At 79.4%, the proportion of Louisville Metro residents who report physical activity is higher than for Kentucky and slightly higher than the national percent. A higher percent of White males report engaging in physical activity when compared to African American males. More White females report physical activity than African American females.





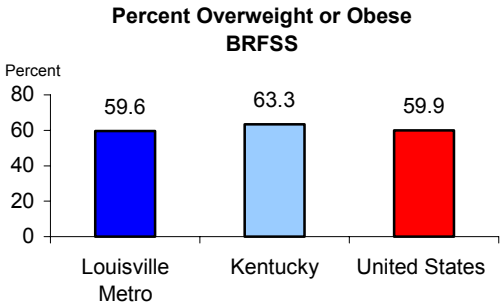
The 2004 survey showed that 27.2% of Louisville Metro residents currently smoke tobacco. This is higher than the national rate and slightly lower than the Kentucky rate. When we examine "smoking every day" and "smoking only some days" Louisville Metro is lower than the state for the rate who smoke every day, but higher for those who smoke only some days. In LM, the group with the highest percent is African American men (28.3%), though most of them report smoking some days and not every day (15%).

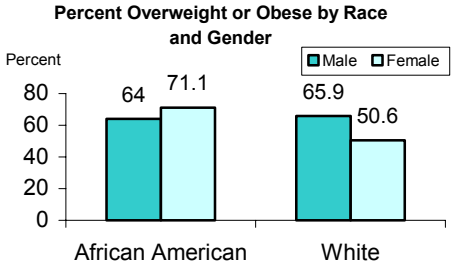




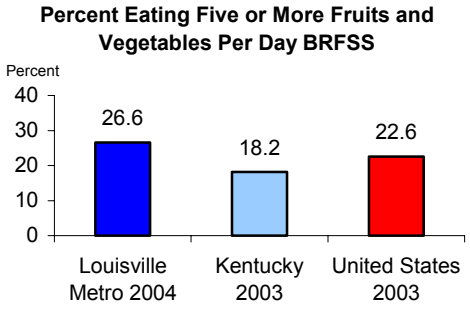
The risk factor survey asked participants for their height and weight to use to compute a Body Mass Index (BMI). Body Mass Index is a calculated index that attempts to normalize weight for height as an indirect measurement of body fat. A BMI of 25 to 29 is classified as overweight and a BMI of 30 or more is considered obese. Approximately sixty percent of the Louisville Metro residents in 2004 reported heights and weights that converted to a BMI that

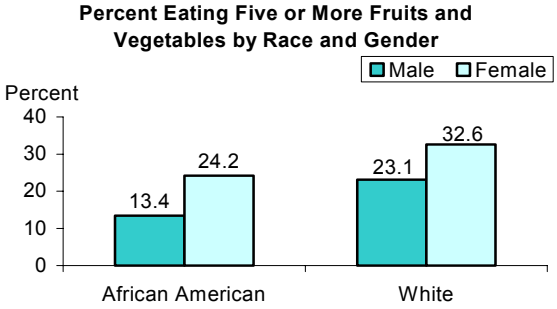
indicated they were obese or overweight. This is lower than the rate for Kentucky (63.3%) and similar to the national rate. African American females in Louisville Metro are more likely than males or White females to be overweight or obese. African American men and White men have similar percentages while White females had the smallest percentage overweight or obese.





The percent of people in Louisville Metro who report eating five or more servings of fruits and vegetables each day was greater than the percentages for Kentucky and the United States. However, all these data reflect that the majority of the people are not eating the recommended daily amount of fruits and vegetables. Proper nutrition is important to an individual's ability to prevent diseases and to prevent complications from existing diseases. It is a universal problem in our community and our nation that the majority of the adults are not eating a diet needed to maintain optimal health.





What are we doing?

The Chronic Disease Prevention Team of the Louisville Metro Health Department works with community partners to provide leadership, support and training that empower Louisville Metro residents to adopt positive health behaviors and reduce the risk of chronic disease. Specific programs are listed below:

Nutrition

- Support Mayor's Healthy Hometown Movement and Take Charge Challenge with technical assistance and educational materials related to nutrition topics
- Work with "Healthy Eating by Design" and the Community Farm Alliance to promote healthy eating via farmer's markets and related venues
- Conduct four Weight Control Series of (4 meetings plus a follow-up screening).
- Provide training targeted to worksites or other groups on:
  - Starting a Weight Support Group
  - Offering Low-Calorie Tasting Opportunities ("Lite Bites")
- Promote 5 a Day through providing a fruit basket in employee snack room; purchase fruit and sell by honor system; train other worksites on this program
- Make available via download from website or hardcopy: "Week of Healthy Menus: 1200, 1400, 1700, 2000 Calories" booklets, which also include a simple tool to estimate one's calorie level for weight loss and other tools
- Provide educational materials at health fairs and other events; topics focus on weight control and nutrition (especially "5 A Day") themes; "Lite Bites" Cookbook also available
- Loan displays for health fairs or other educational events
- Provide professional and public education on weight control and nutrition, focusing on 5 a Day.
- Conduct "Sisters Together Move More, Eat Better" nutrition education programs for women of color.
- Provide technical support for the nutrition education component of Presbyterian Community Center's "Get Up, Get Out, Get Moving About" program for residents of Shelby Park and Smoketown.

Diabetes

- Conduct Diabetes Self Management Series seven times/year at variety of locations throughout Louisville Metro.
- Conduct diabetes social marketing campaign, utilizing billboards, bus shelters, newspaper, and radio advertisement.
- Host monthly Diabetes Support Group at Park Duvalle Community Health Center.
- Provide professional education programs for nurses, nutritionists and other healthcare providers.
- Conduct Primary Prevention Programs for businesses and community groups to help prevent Type 2 diabetes.
- Provide diabetes-related information, resources and displays at agency and community events and health fairs.

- Collaborate with the Louisville Urban League to reach and provide education to African Americans with diabetes.
- Provide leadership to more than 15 professional groups and coalitions, including Kentucky Diabetes Network, American Association of Diabetes Educators, American Diabetes Association, and Greater Louisville Association of Diabetes Educators.

Heart Disease and Stroke

- Align with the Office of Minority Health Staff to develop culturally appropriate strategies to prevent heart disease and stroke in the African American community, specifically addressing systems approaches in healthcare systems, worksites (UPS, UAW/Ford, U of L, Metro Government, etc.), community (MHHM) and schools (HPSE).
- Continue to implement Search Your Heart, a blood pressure education program in Kentucky churches with large African-American congregations, by collaborating with the American Heart Association and possibly U of L Hospital.
- Implement a variety of education and awareness raising activities (about high blood pressure, high cholesterol, tobacco, physical inactivity, poor nutrition) targeting African Americans through venues such as healthcare systems, worksites, community sites and schools.
- Facilitate collaboration and increase knowledge of updated prevention and treatment guidelines among public and private sector partners through a Heart Disease and Stroke Summit.
- Develop a mass media campaign that increases awareness of heart disease and stroke prevention and treatment, including warning signs of a heart attack and stroke and the importance of accessing rapid emergency care by calling 911.
- Address barriers by collaborating with the Louisville Metro Mayor's Healthy Hometown Movement and other Metro agencies to address high blood pressure and other risk factors for heart disease and stroke.

Physical Activity

- Provide leadership to the Mayor's Healthy Hometown Movement via management of the Fitness Roundtable, and staffing for Advisory Council committees.
- Support Take Charge Challenge (TCC) worksite wellness program by providing educational materials for the TCC website.
- Provide monthly exercise challenges with incentives to LMHD and its satellite sites; train other worksites on this program.
- Post and distribute Point-of-Decision stair and walking prompts at LMHD and other worksites.
- Distribute exercise contracts and logs via trainings and classes.
- Represent the LMHD on KY Physical Activity Committee
- Provide leadership for Jefferson County Health Promotion Schools of Excellence's participation in LMHD's annual Walk on the Waterfront.

- Provide training targeted to worksites on:
  - Starting a Worksite Wellness Committee
  - Ideas for Worksite Wellness Activities
  - Body Fat Analysis (loan equipment)

In addition to the Chronic Disease Prevention Team, the **Office of Minority Health** at the Louisville Metro Health Department promotes physical activity by working with community partners in underserved areas. Their efforts to address obesity and increase physical activity include:

- Coordinate the Take Charge Challenge worksite wellness program for Metro employees;
- Provide technical assistance, training to area employers interested in starting Take Charge Challenge program for their employees.
- Manage and support the 300-Mile Walking Club (nationally award-winning NACCHO Model Practice).
  - Provide a walking coach to motivate interested individuals to improve fitness and instruction on proper walking techniques for better results.
  - Conduct biweekly walks for walking clubs in Metro Parks..
  - Hold monthly meetings with speakers to educate on health and nutrition. "Let's Eat" night is a healthy potluck dinner where each dish is accompanied by a healthy recipe.
  - Provide incentives for accomplished personal goals and for reaching 300 walking miles during the spring and summer months.
  - Provide screening for body mass index, blood pressure and weight to monitor success.
- Measure a one-mile route for walking clubs and worksite wellness programs.
- Promote walking clubs at health fairs and through the media.
- Promote low-impact physical fitness program ("Sisters Together Move More, Eat Better" for women of color, in partnership with SWANS Health Ministry.
- Distribute Metro Fitness Parks booklets at classes, to community groups, worksites, health fairs, etc. to ensure access to free, low-cost resources for physical activity.
- Assure physical activity access via aerobics classes at Louisville Metro Health Department (400 E. Gray location) and Park DuValle Health Center and at Mayor's Healthy Hometown events.
- Provide leadership to and technical assistance for Active Louisville's work to support changes in the physical environment that promote more physical activity.

<u>Tobacco</u>

The Louisville Metro Health Department's Tobacco Prevention and Cessation Program works to address the following goals:

- Prevent initiation of tobacco use among young people
- Promote cessation of tobacco use among young people and adults
- Eliminate nonsmokers' exposure to environmental tobacco smoke

- Eliminate the disparities related to tobacco use and its effects among different population groups

The Tobacco Program staffs the Jefferson County Smoke Free Coalition, which has 160 members representing 97 businesses, non-profit organizations, government agencies, and individuals, has a Steering Committee and six task groups: Adult, Schools and Youth, Prenatal, Disparate Populations, Professional Education, and Secondhand Smoke.

Some of the program's activities include:

- Expand the number and locations of Cooper-Clayton stop smoking classes for adults
- Offer smoking cessation classes (TAP/TEG, LAF Lab) to youth
- Produce a *Smoke Free Dining Guide,* which lists Louisville Metro restaurants that do not allow smoking
- Provide education and information on tobacco use and cessation:
    - Let's Be Blunt and Band4Life for youth
    - Mother's Day Out for pregnant women
    - Standardized Patient Project for U of L medical, dental, and dental hygiene students
    - U of L Children and Youth Project study of the effectiveness of both measuring Bosnian children's urinary cotinine levels and using those measurements to counsel the children's parents who smoke about secondhand smoke and cessation

What else should we do?

- Coordinate activities under the Mayor's Healthy Hometown Movement, to increase awareness of behavioral health risks, encourage healthy eating and physical activity, and develop resources for healthy living.
- Partner with Active Louisville's RWJF-funded programs, "Active Living by Design," and "Healthy Eating by Design" to effect changes in the physical environment supportive of healthy lifestyle habits and risk factor reduction.
- Provide leadership for the Mayor's Healthy Hometown Movement Advisory Committee groups via a CDC Prevention Specialist, social marketing campaign, Health Promotion Schools of Excellence, and relevant policy development.
- Gather baseline data on Louisville Metro employers that have/are interested in workplace health promotion programs.
- Promote "Take Charge Challenge" worksite wellness program as a turn-key program, with technical assistance from LMHD, that will enable employers to promote physical activity among their employees.
- Develop the Office of Faith and Health to provide health outreach, training, and capacity-building in 50 faith organizations in Metro Louisville.
- Provide leadership on the Kentucky Physical Activity Coalition.

- Develop the Center for the Elimination of Health Disparities to better integrate health education activities for chronic disease prevention among disparate populations in Louisville Metro.

References

1. National Heart, Lung, and Blood Institute. *Morbidity and Mortality: 1998 Chartbook on Cardiovascular, Lung, and Blood Diseases.* Bethesda, MD: Public Health Service, National Institutes of Health. 1998.

2. Sempos, C.T.; Cleeman, J.I.; Carroll, M.K.; et al. Prevalence of high blood cholesterol among U.S. adults: An update based on guidelines from the second report of the National Cholesterol Education Program Adult Treatment Panel. *Journal of the American Medical Association,* 269(23): 3009-3014. 1993.

3. Huston, S.L.; Lengerich, E.J.; Conlisk, E.; et al. Trends in ischemic heart disease death rates for blacks and whites—United States, 1981–1995. *Morbidity and Mortality Weekly Review,* 47(44): 945-949. 1998.

4. Landis, S.H.; Murray, T.; Bolden, S.; et al. Cancer statistics, 2000. *CA: A Cancer Journal for Clinicians,* 50(1): 2398-2424. 2000.

5. Wingo, P.A.; Ries, L.A.G.; Giovino, G.A.; et al. Annual report to the nation on the status of cancer, 1973–1996, with a special section on lung cancer and tobacco smoking. *Journal of the National Cancer Institute,* 91(8): 675-690. 1999.

6. U.S. Department of Health and Human Services. *The Health Benefits of Smoking Cessation*. DHHS Publication No. CDC 90-8416. Atlanta, GA: Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1990.

7. Willet, W. Diet and nutrition. In: Schottenfeld, D., and Fraumeni, Jr., J.F.; eds. *Cancer Epidemiology and Prevention*. New York, NY: Oxford University Press, 1996. 438-461.

8. Clark, C. How should we respond to the worldwide diabetes epidemic? *Diabetes Care,* 21(4): 475-476. 1998.

9. Burke, J.; Williams, K.; Gaskill, S.; et al. Rapid rise in the incidence of type 2 diabetes from 1987 to 1996: Results from the San Antonio Heart Study. *Archives of Internal Medicine,* 159(13): 1450-1457. 1999.

10. Centers for Disease Control and Prevention. *BRFSS Trends Data*. http://apps.nccd.cdc.gov/brfss/Trends/TrendData.asp. 30 July 2004

11. Kentucky Division of Epidemiology and Health Planning Surveillance and Health Data Branch. *Kentucky Behavioral Risk Factor Surveillance System 2002 Report.*

http://chfs.ky.gov/NR/rdonlyres/C95D2386-19F6-4361-9B76-7964EEE1E3EB/0/2002BRFSS.pdf. August 2004.

12. Kentucky Department for Public Health, Health Policy Development Branch. *Kentucky Health Claims Data 2000 – 2003.*

13. Centers for Disease Control and Prevention. *BMI – Body Mass Index: BMI for Adults: Body Mass Index Formula for Adults.* http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult-formula.htm. 16 December 2004.

Oral Health

Oral health refers to the health of the oral cavity, which includes the mouth and throat. Cavities (tooth decay), gum disease, tooth loss, and cancer are some of the conditions that may affect a person's mouth and throat. These conditions can cause pain, poor nutrition, absence from school, absence from work, poor appearance, diminished self-esteem, and even death.

Last Visit to a Dentist or Dental Clinic

What is it?

The period of time that has passed since an individual made a visit to a dentist or dental clinic is an indication of how frequently the individual is seen by a dentist.

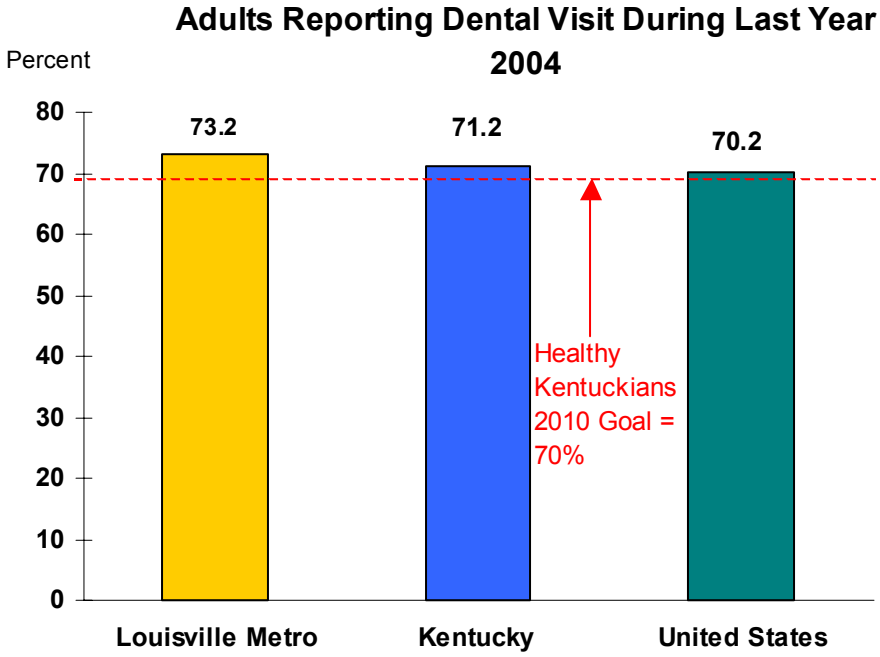
Why is it important?

Regular visits to a dental health professional help in the prevention and early detection of tooth decay and gum disease. Early detection of these conditions can result in better oral health outcomes. Healthy Kentuckians 2010 has set a goal of increasing the percent of adults who went to a dentist or dental clinic during the past 12 months to 70%.

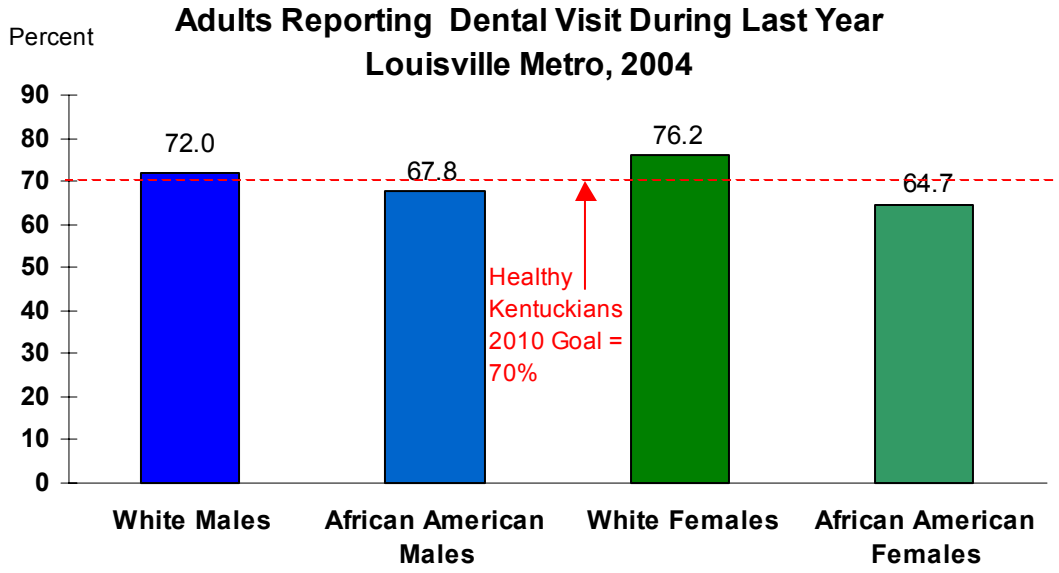
What is Louisville Metro's Status?

The Behavioral Risk Factor Surveillance System (BRFSS) survey periodically includes the question, "How long has it been since you visited a dentist or dental clinic for any reason?" This item includes visits to orthodontists and other dental health specialists.

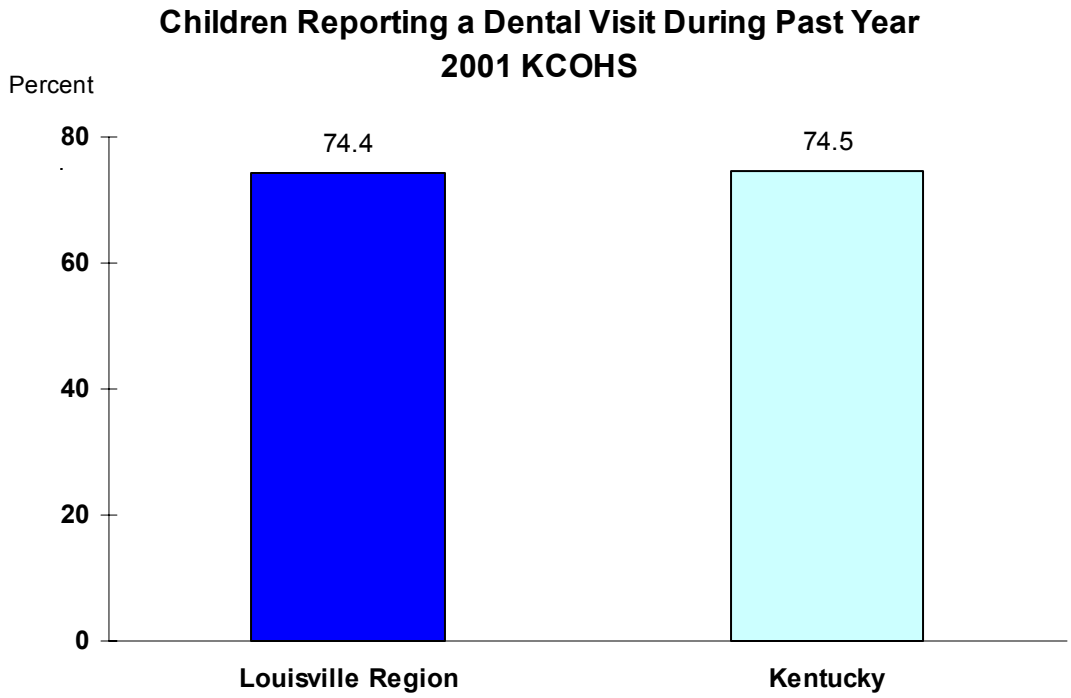
In 2004, the BRFSS survey of Louisville Metro residents found that 73.2% visited a dentist or dental clinic within the last year. This is higher than the goal set by Healthy Kentuckians 2010. This rate is slightly higher than the rate for the state of Kentucky (71.2%) and the nation (70.2%). All of these rates exceed the 2010 goal.



Within Louisville Metro, there are slight racial differences in the proportions of adults who visited a dentist or dental clinic during the last year. About 68% of African American males and 65% of African American females indicated they visited a dentist or dental clinic during the past year, which is slightly under the Healthy Kentuckians 2010 goal of 70%. White males and White females report a higher percent than the goal of 70%.



The Kentucky Children's Oral Health Profiles, 2001 report presented the results from dental screenings of over 5,600 third and sixth graders in Kentucky. The report provides data for the state of Kentucky and for five regions within the state. The region containing Louisville included the Kentucky counties of Bullitt, Jefferson, Oldham, Shelby, and Spencer. They found that over 74% of the children in Kentucky and in the Louisville Region had a dental visit during the past year. This exceeds the Healthy People 2010 goal of 70%.


Children Reporting a Dental Visit During Past Year
2001 KCOHS
Percent
80
60
40
20
0
74.4
74.5
Louisville Region
Kentucky

Last Preventive Dental Visit

What is it?

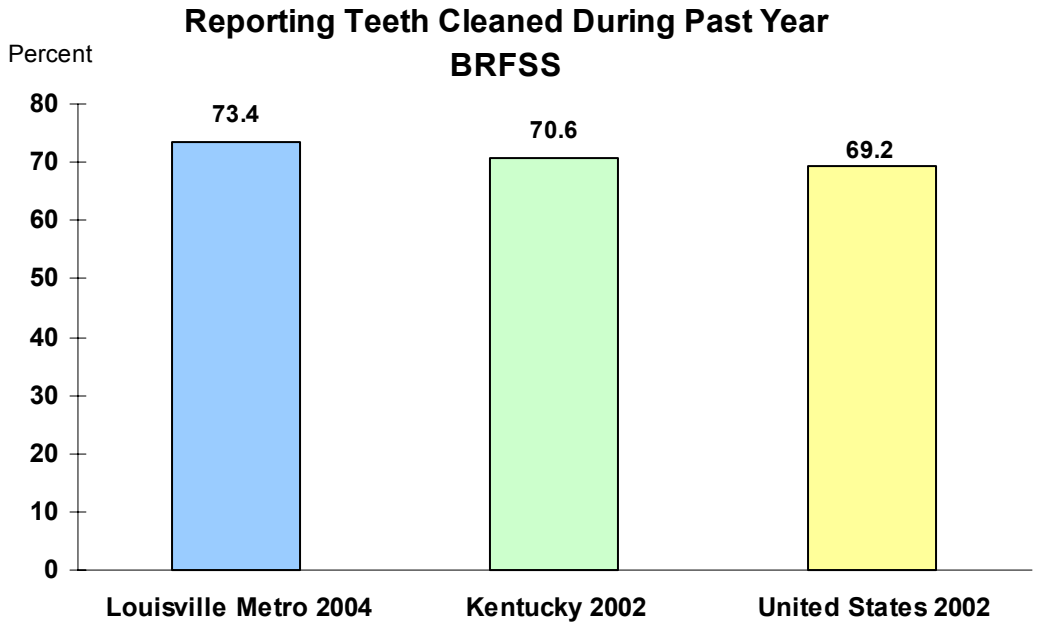
Preventive dental visits typically include teeth cleaning performed by a dentist or dental hygienist and a complete dental examination. The primary purpose of teeth cleaning is to remove deposits such as plaque and tarter which can lead to periodontal disease.

Why is it important?

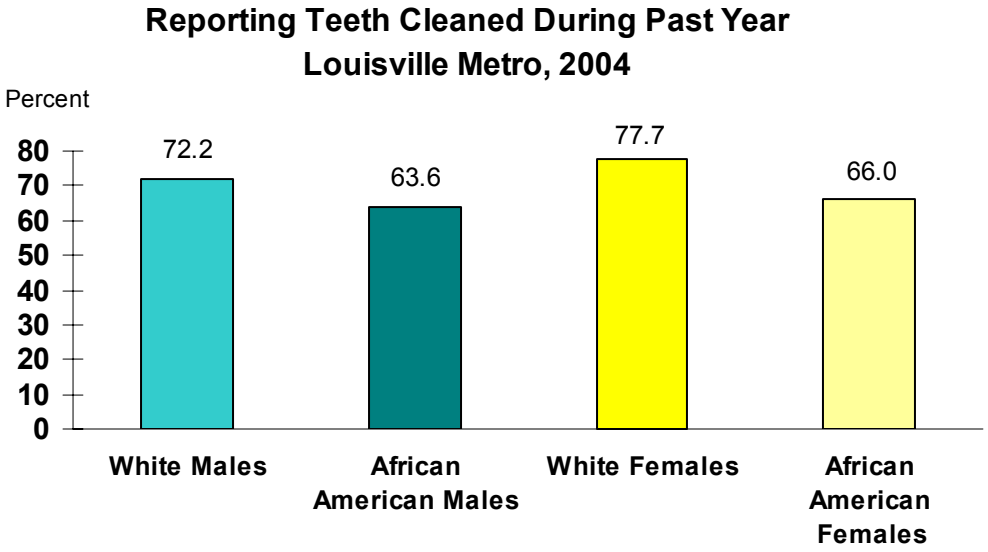
It is important to distinguish preventive dental visits from other visits to a dentist or a dental clinic because it is the preventive dental visits that have the best potential to identify conditions that can cause serious problems if left untreated.

What is Louisville Metro's status?

The 2004 Louisville Metro BRFSS found that 73.4% of Louisville Metro adults had their teeth cleaned in the last year. This is similar but slightly higher than the percent reported for Kentucky and the United States in 2002.



Racial differences were found in the proportions of adults who reported having their teeth cleaned during the past year. For Whites, 72.2% of the males and 77.7% of the females reported a dental cleaning, while for African Americans, 63.6% of the males and 66% of the females reported a dental cleaning during the past year.


Reporting Teeth Cleaned During Past Year
Louisville Metro, 2004
Percent
80
70
60
50
40
30
20
10
0
72.2
63.6
77.7
66.0
White Males
African American Males
White Females
African American Females

Reasons for No Dental Visit During Past Year

What is it?

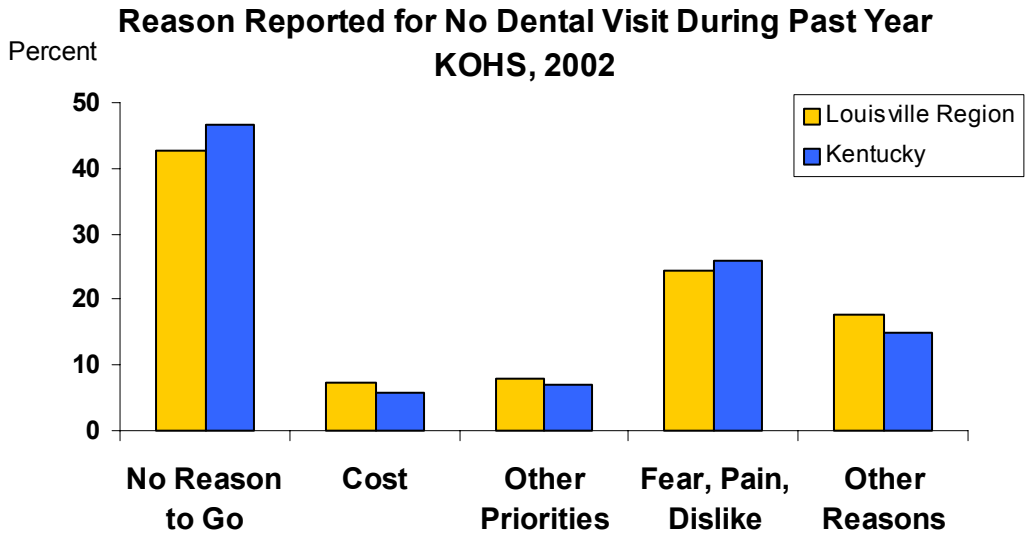
Adults who did not visit a dentist in over a year have different reasons for making this decision. The Kentucky Adult Oral Health Survey (KOHS) in 2002 asked respondents for their reason for not visiting a dentist in over a year.

Why is it important?

If regular dental attention is important to maintain oral health, we must understand the reasons why adults do not visit a dentist. An understanding of these reasons can help us remove barriers to better oral health that may exist for Louisville Metro residents. This information can also help shape marketing efforts to encourage Louisville Metro residents to visit a dentist more often.

What is Louisville Metro's status?

The 2002 KOHS divided the State of Kentucky into regions and the Louisville region included the Kentucky counties of Bullitt, Jefferson, Oldham, Shelby, and Spencer. In the Louisville Region, 42.8% of respondents indicated they believed they had no reason to visit the dentist during the last year. Another 24.3% cited cost as their reason while 7.8% reported they had other priorities and 7.4% reported fear, apprehension, nervousness, pain, and disliking visiting the dentist.



Six or More Extractions for Tooth Decay or Gum Disease

What is it?

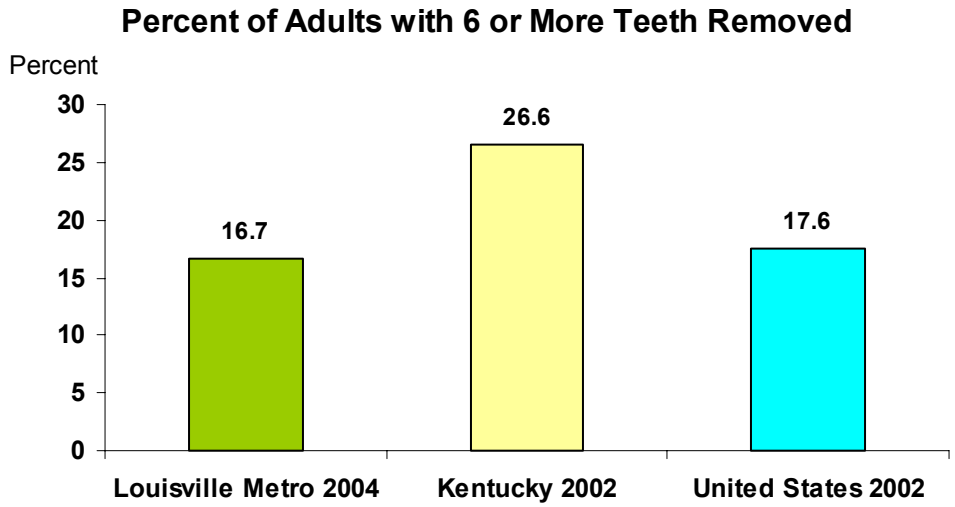
Untreated tooth decay or gum disease can result in removal of teeth. The 2004 Louisville Metro BRFSS survey asked respondents how many of their teeth had been pulled because of tooth decay or gum disease. The respondents who indicated that six or more of their teeth had been removed for these reasons were grouped into a single category for this indicator.

Why is it important?

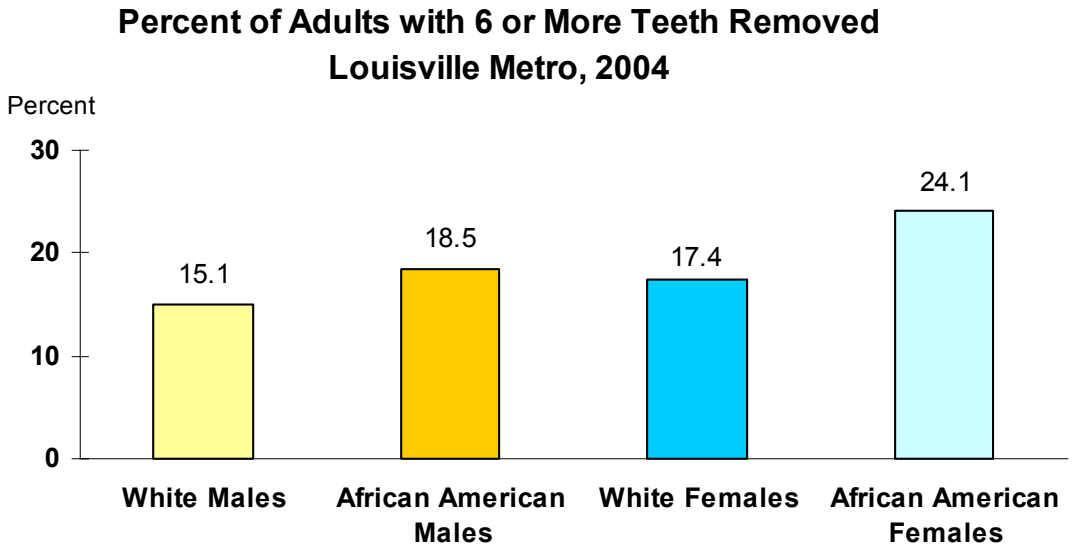
Six or more extractions due to tooth decay or gum disease generally indicates missed opportunities for preventive oral health measures such as regular dental health care and early diagnosis. This percentage is an indication of just how many people in our community are missing preventive dental care.

What is Louisville Metro's status?

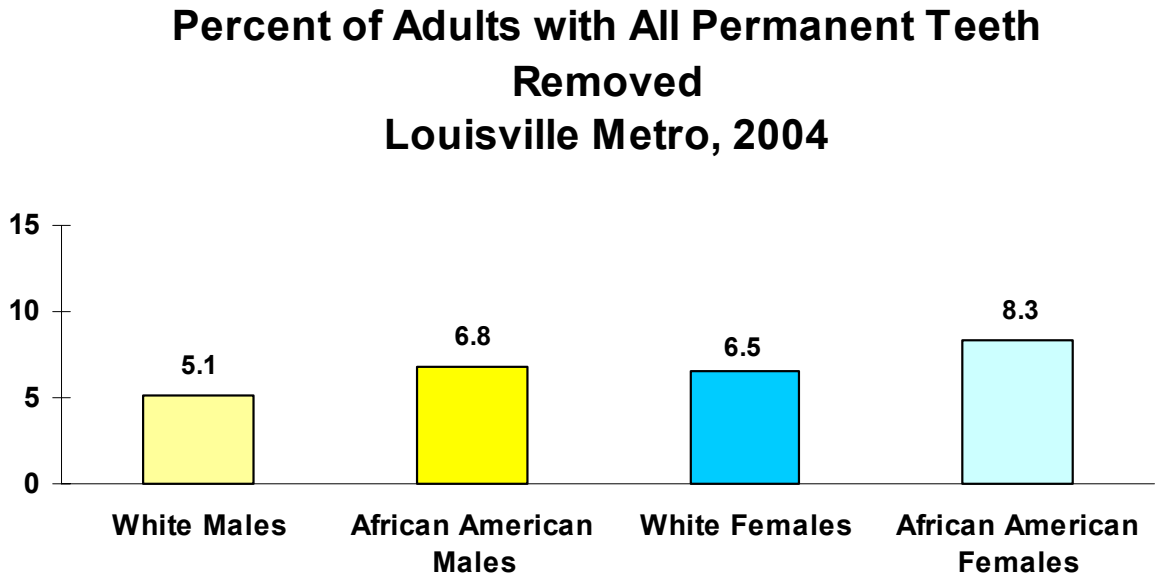
In 2004, 16.7% of Louisville Metro adults reported six (6) or more teeth had been removed because of tooth decay and gum disease. The 2002 BRFSS found that the corresponding percentage for Kentucky was 26.6% and the US percent was 17.6%.



Some racial and gender differences were found in the percentages of adults who have had six or more teeth removed because of tooth decay or gum disease. For White males the percent was the lowest at 15.1%. This was followed by 17.4% for White females, 18.5% for African American males, and 24.1% for African American females.



Racial and gender differences in the percent who have lost all of their teeth due to tooth decay and gum disease are slight. The range is from 5.1% for White males to 8.3% for African American females.



Incidence of Cancer of the Oral Cavity and Oropharynx

What is it?

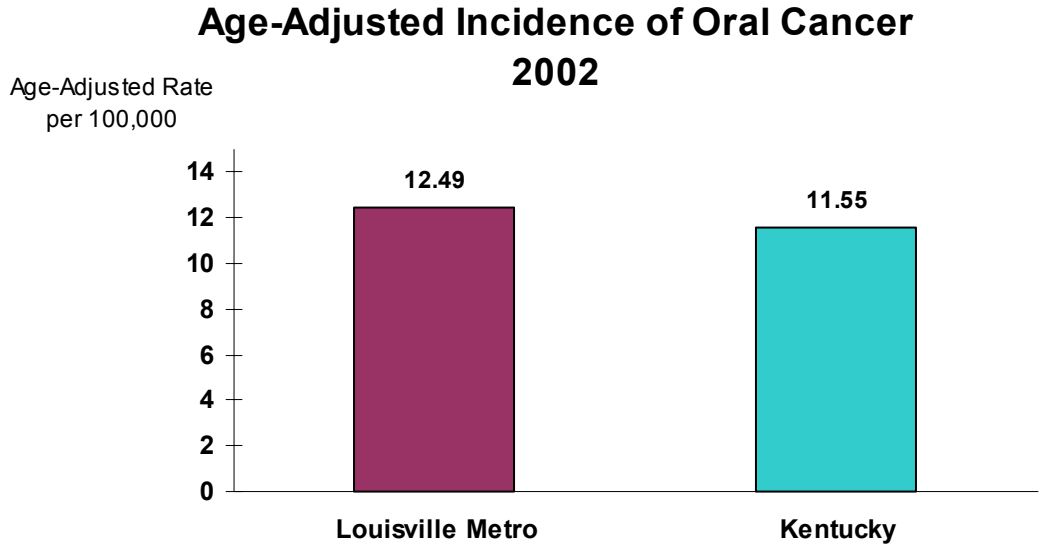
Cancers of the oral cavity and oropharynx include cancers of the lips, gums, mouth, and the back wall of the throat.

Why is it important?

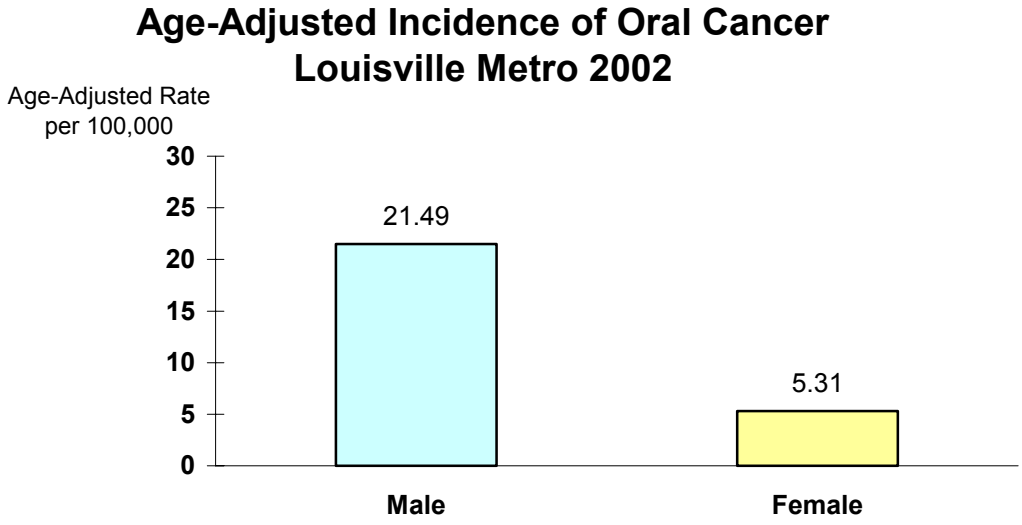
Cancers of the oral cavity and oropharynx are serious conditions that can require extensive disfiguring surgery or can result in death. Most oral and oropharyngial cancers can be prevented by avoiding known risk factors such as alcohol and tobacco.

What is Louisville Metro's Status?

In 2002, Louisville Metro had an age-adjusted incidence of 12.49 cancers of the oral cavity and oropharynx per 100,000 persons.



In Louisville Metro, in 2002, the incidence of oral and oropharyngeal cancers was 21.49 per 100,000 males but only 5.31 per 100,000 females.



Self-Reported Oral Health

What is it?

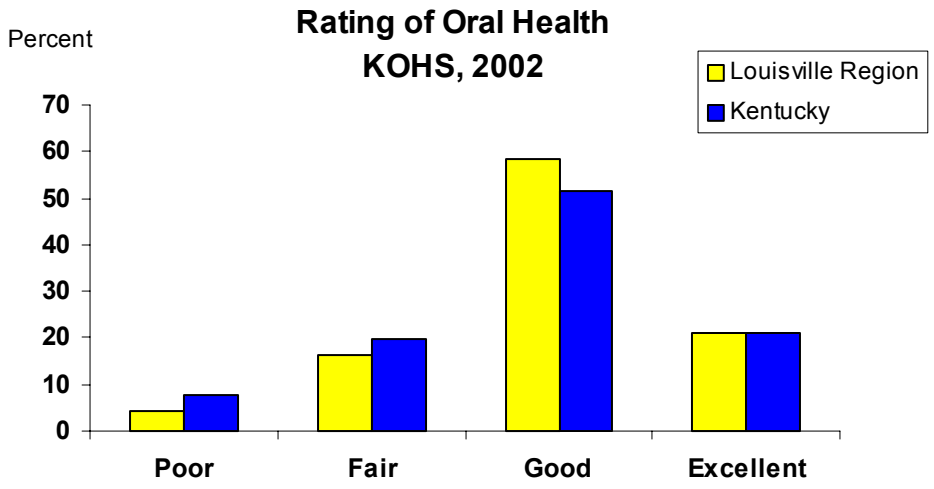
The Kentucky Adult Oral Health Survey (KOHS) in 2002 asked respondents for details about their oral health. Included were questions about respondents' ability to chew food, ability to speak clearly, happiness with appearance of teeth, problems with oral pain, and perceptions about overall oral health.

Why is it important?

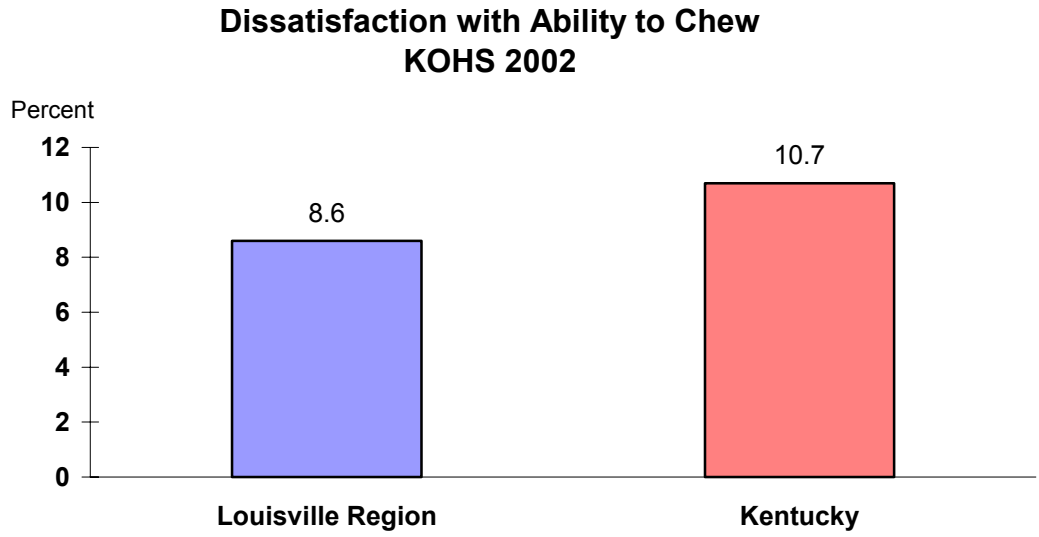
Many oral health conditions result in pain or difficulties with every-day activities such as speaking and eating. To fully understand the oral health concerns of our community, it is important to ask residents to describe their experiences with these problems and to listen to their perceptions of their oral health. An understanding of these perceptions can help us understand the full impact of oral health problems in our community.

What is Louisville Metro's Status?

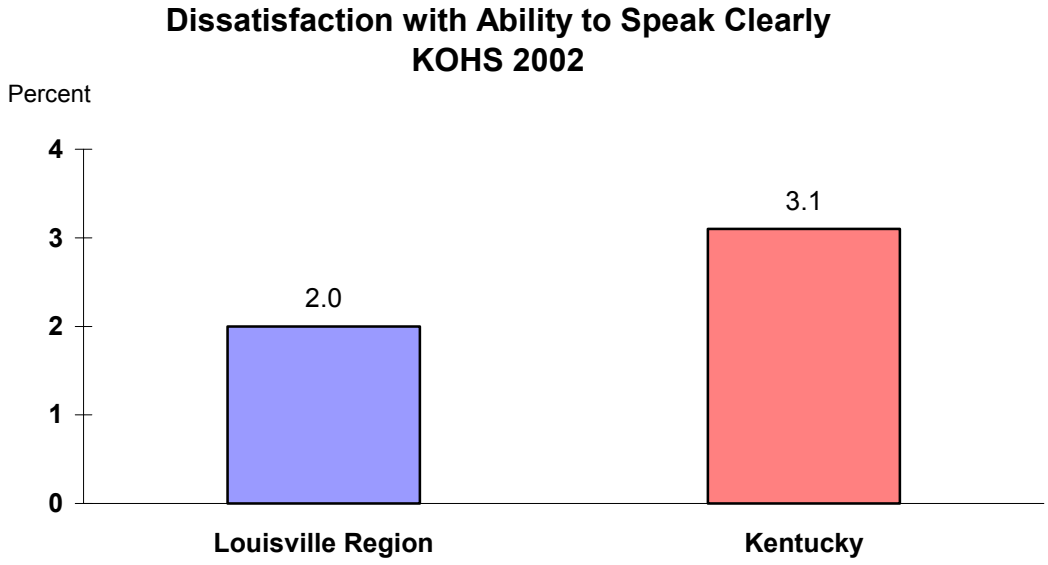
In the Louisville Region 79.4% of respondents report 'excellent' or 'good' oral health compared with 72.4% of Kentucky respondents. This means that 20.6% of Louisville Region respondents report 'fair' or 'poor' oral health.



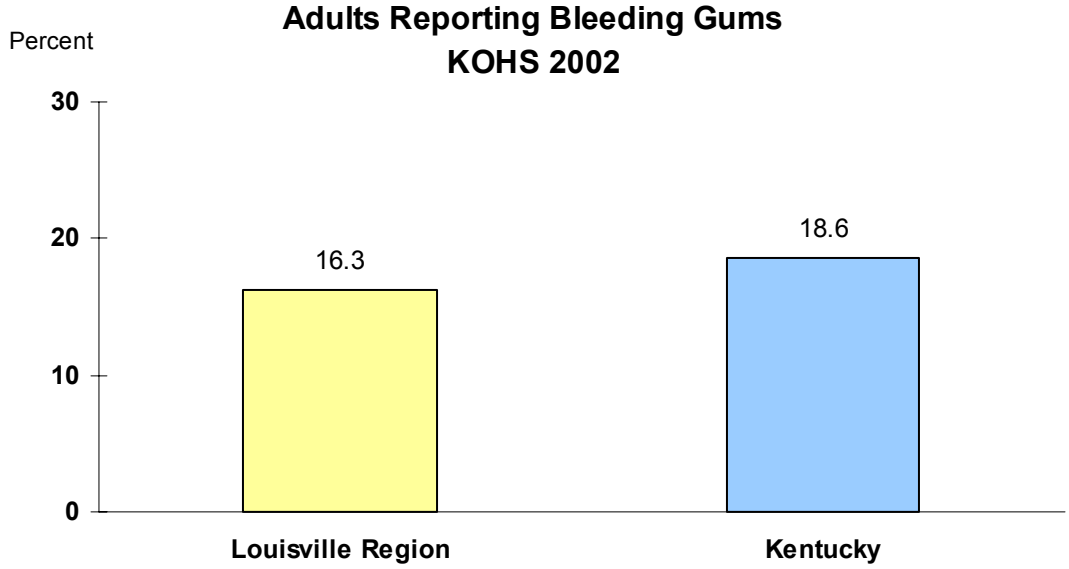
The 2002 KOHS asked respondents: "Overall, are you happy with your ability to chew any foods that you want?" Of the Louisville Region respondents, 8.6% indicated they were not happy with their ability to chew while 10.7% of Kentucky respondents indicated they were unhappy with their ability to chew.



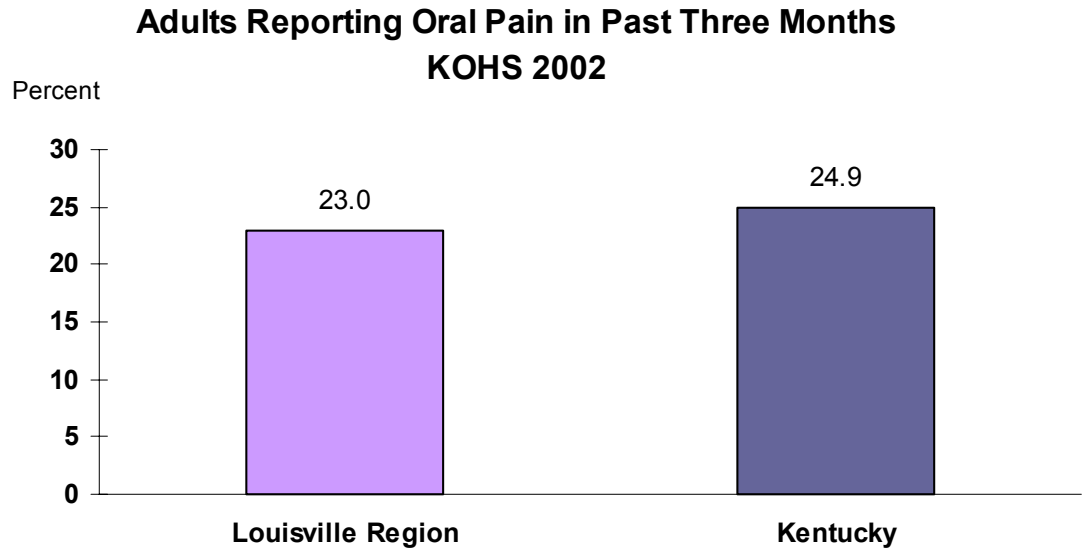
There are many conditions that can impair a person's ability to speak. The 2002 KOHS asked respondents: "Because of your teeth or dentures are you satisfied, overall, with your ability to speak clearly?" Two percent of the Louisville Region respondents indicated that because of their teeth or dentures they were not satisfied with their ability to speak clearly, while three percent of the Kentucky residents reported dissatisfaction.



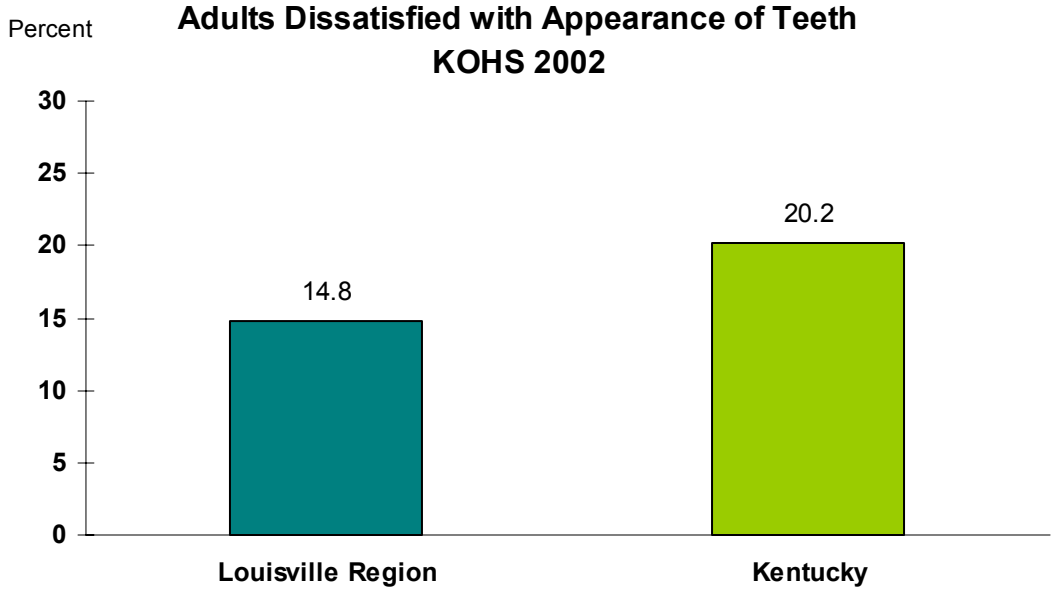
The 2002 KOHS asked respondents with teeth: "Do your gums often bleed when you brush or floss?" Bleeding gums can indicate severe gingivitis. For the Louisville Region, 16.3% reported that their gums often bleed when they brush or floss. The percent for Kentucky residents was 18.6%.



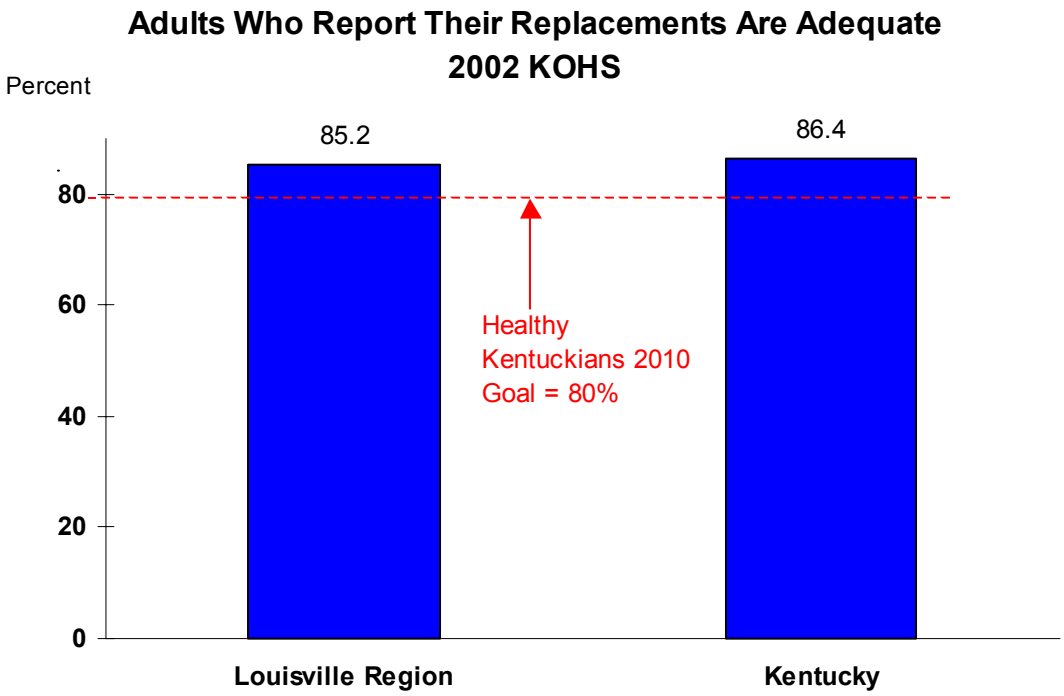
The 2002 KOHS asked respondents: "Have you had any pain in your teeth, gums or jaws in the past 3 months?" In the Louisville Region, 23% reported some oral pain in the past 3 months. Almost 25% of the Kentucky respondents such pain.



The 2002 KOHS asked respondents: "How happy are you with the appearance of your teeth or dentures?" Twenty percent of the Kentucky residents reported dissatisfaction while 14.8% of Louisville Region adults reported dissatisfaction with the appearance of their teeth or dentures.



The 2002 KOHS asked respondents who have lost six or more teeth and who have replacements for some or all of these teeth: "Are your dentures, partials or bridges adequate? That is, are they comfortable, do they work well, and do they look good?" The Healthy Kentuckians 2010 goal is that at least 80 percent of the people who are missing six or more teeth have adequate dentures, partials or bridges. Both the Louisville Region and the state of Kentucky have met this goal with more than 80% satisfied with their dentures and partials.


Adults Who Report Their Replacements Are Adequate
2002 KOHS
Percent
85.2
86.4
80
60
40
20
0
Healthy
Kentuckians 2010
Goal = 80%
Louisville Region
Kentucky

Tooth Decay (or Dental Caries)

What is it?

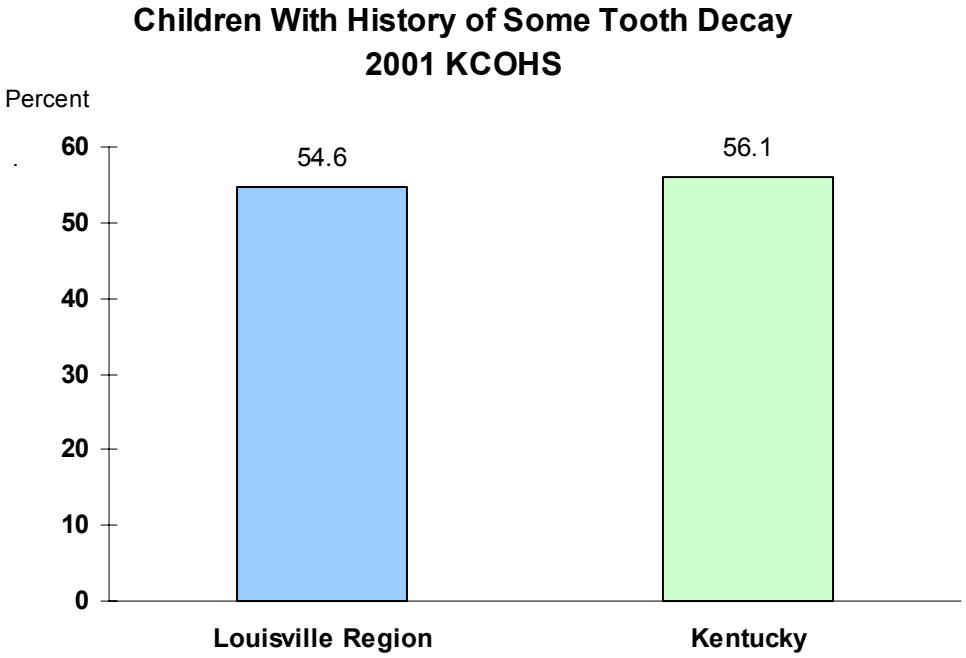
Tooth decay, also called tooth cavities or dental caries, consist of an area on the tooth's outer layer of enamel that has dissolved away and left a hole or "cavity." This process, also called demineralization, results when bacteria in the mouth consume available sugar and release acid. Dental plaque that forms on teeth provides a place for these bacteria to live and holds the acid against the tooth surface.

Why is it important?

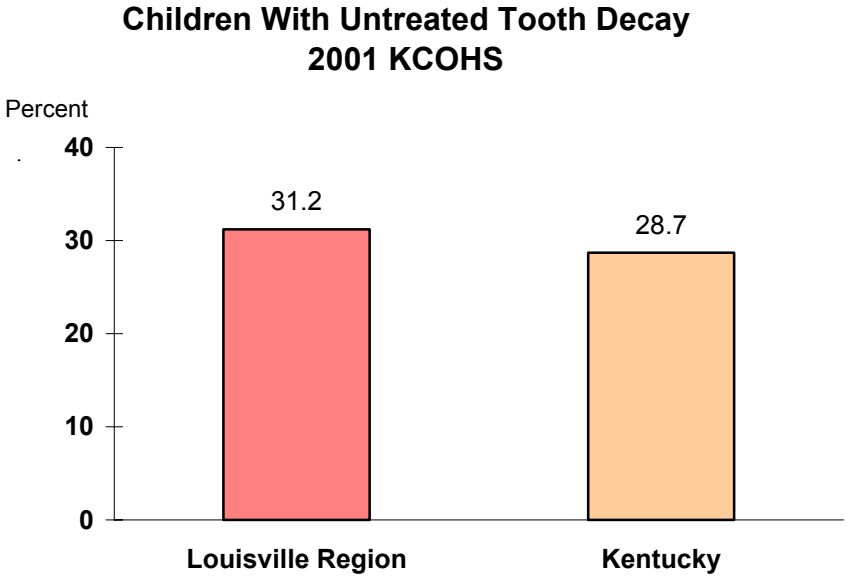
The 2000 Surgeon General's report on oral health states that tooth decay is the most common childhood disease.[12] If tooth decay is allowed to develop and then is not treated, it can result in gum disease and the loss of teeth. Regular vists to a dental professional and regular brushing and flossing of teeth can help prevent tooth decay. Fluoride, in the local water system or in toothpaste, can prevent or even reverse the process of tooth decay.

What is Louisville Metro's Status?

The 2000 Surgeon General's report on oral health states that over 50% of the children in the US who are five to nine years of age have at least one cavity or filling.[12] The Kentucky Children's Oral Health Profiles, 2001 report presented the results from dental screenings of over 5,600 third and sixth graders in Kentucky. They found that 56% of the children in the sample had some experience with tooth decay. In the Louisville Region (including Bullitt, Jefferson, Oldham, Shelby, and Spencer counties) about 55% had experienced tooth decay.



The Kentucky Children's Oral Health Profiles, 2001 report found that 31% of the children in the Louisville Region and about 29% of the children in Kentucky had untreated tooth decay.



What are we doing?

The Louisville Metro water supply is treated with fluoride. The Louisville Metro Health Department (LMHD) routinely monitors the level of fluoride in the water supply under the direction of the University of Louisville School of Dentistry (ULSD).

The LMHD works with the Kentucky Department for Public Health in the KIDS SMILE program. This program is for children up to five years of age who receive a "fluoride varnish" treatment, which consists of applying fluoride on the child's teeth. The fluoride varnish, which is absorbed by the enamel of the teeth, provides additional resistance to tooth decay for up to three months.

The LMHD in cooperation with the ULSD operates a dental clinic at the Dixie Health Center, 7219 Dixie Highway. The Dental Director at the clinic is also the Director of Community Dental Health at the University of Louisville. This clinic operates five days a week with emergency coverage at night and on weekends provided by ULSD. The fees are on a sliding scale and the clinic is one of Louisville Metro's four safety-net dental care providers. The clinic also provides treatment to persons with HIV infection under a Ryan White grant.

The ULSD and the LMHD participate in community health fairs where they provide educational materials on oral health and do oral health screenings.

The LMHD has portable dental equipment that is used for outreach to underserved populations. This equipment is available to be checked out by dentists in the community to do outreach services as well.

The LMHD has a Smoking Cessation and Prevention program that educates on the health issues related to tobacco, including smokeless tobacco. They also offer classes with support groups for assisting people to stop using tobacco products.

The LMHD and ULSD also work on oral health initiatives with the following partners:

- Jefferson County Public Schools and their Health Promotions Schools of Excellence
- Colgate Palmolive Company
- The Teenage Parent Program
- Area Health Education Center
- Smile Kentucky, which includes doing fluoride varnish and sealant applications at the Kentucky State Fair
- Head Start and Early Head Start
- Kentucky Cancer Project
- Metro Dental Safety Net, which works to insure access to dental care and provision of emergency dental care

What else do we need to do?

The LMHD will have a mobile unit in the near future. The Department will study the possibilities of doing more outreach and screenings with the mobile unit.

The Department will investigate expanding the fluoride varnish program for preschoolers. It should also consider making the training for fluoride varnish application required for all department employees who provide services to preschool children.

The Department will continue to respond to the access problem by pursuing appropriate and available funding to increase the oral health services in the community by helping low-income and other underserved patients get the dental care they need.

The LMHD will pursue the development of appropriate oral health education information for outreach to semi-dependent older adults.

References

1. Carmona RH. *Oral Health, Preventing Cavities, Gum Disease, and Tooth Loss 2005*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2005.

2. Kentucky Division of Epidemiology and Health Planning. *Healthy Kentuckians 2010.*

3. Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance Survey Data.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2002.

7. CDC National Oral Health Surveillance System. *Teeth Cleaning.* *http://www.cdc.gov/nohss/guideED.htm.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004.

5. University of Louisville School of Dentistry. *Kentucky Adult Oral Health Survey 2002 Final Report.* Frankfort, Kentucky: Division of Oral Health, Kentucky Department of Public Health, 2003.

6. CDC National Oral Health Surveillance System. *Dental Visits, Frequently Asked Questions.* *http://www.cdc.gov/nohss/guideDV.htm.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004.

7. CDC National Oral Health Surveillance System. *Complete Tooth Loss.* *http://www.cdc.gov/nohss/guideED.htm.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004.

8. U.S. Cancer Statistics Working Group. *United States Cancer Statistics: 1999-2001 Incidence and Mortality Web-based Report Version*. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention, and National Cancer Institute; 2004. Available at: www.cdc.gov/cancer/npcr/uscs. Accessed May 23, 2005.

9. Kentucky Cancer Registry. *Online Cancer Incidence and Mortality Tool Version 4.1.* Lexington (KY): Markey Cancer Control Program, University of Kentucky. Available at http://www.kcr.uky.edu/index.html. Accessed May 23, 2005.

10. American Cancer Society. *Detailed Guide: Oral Cavity and Oropharyngial Cancer.* Atlanta (GA); 2005. Available at: http://www.cancer.org. Accessed May 23, 2005.

11. American Dental Association. *Periodontal Diseases*. http://ada.org/public/topics/periodontal_diseases.asp. Chicago (IL); 2005. Accessed May 27, 2005.

12. U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General – Executive Summary*. Rockville, MD: U.S. Department of Health and

Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

Mental Health

What is it?

Mental health, according to the Surgeon General Report, is "the successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity."[1] From early childhood and throughout our lifetime, "mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self-esteem."[1]

Mental illness, sometimes referred to as a mental disorder or a mental problem, is a health condition that includes alterations in thinking, mood and/or behavior "associated with distress and/or functioning."[1] Mental illness may be caused by a reaction to environmental or internal stresses, genetic factors, biochemical imbalances, or a combination of these factors and . There are more than 200 classified forms of mental illness, ranging in severity from mild to disabling. Examples include psychotic disorders, mood and anxiety disorders, organic brain disorders, and personality disorders. Mental illnesses can be treated successfully in a variety of ways, including counseling, medication, and support services.

Why is it important?

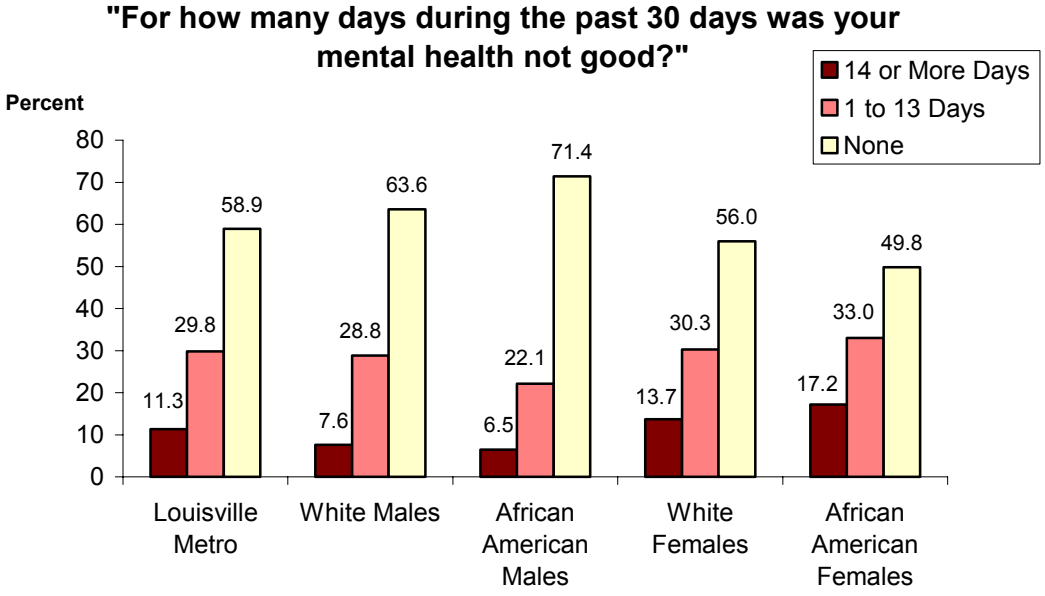
Mental illness affects up to 20% of people during a year,[1] regardless of age, gender, race, ethnicity, religion, or economic status. Mental illnesses cause mild to severe disturbances in thought, mood and/or behavior, resulting in an inability to cope with life's ordinary demands and routines. Forty percent of people diagnosed with alcohol dependency and substance abuse display signs of mental disorders prior to initiating drug use.[1] Mental illness also can lead to suicide.

Lack of understanding about mental health issues and stigma often keeps people from seeking treatment. For example, while the number of persons in treatment grows every year, two-thirds of people with depression still receive no treatment.[1]

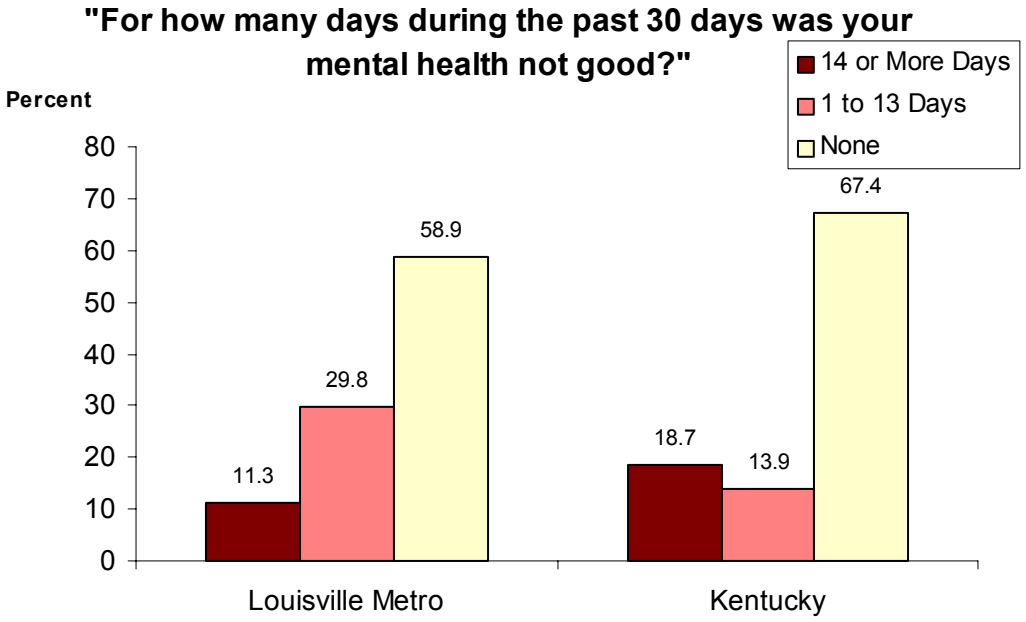
What is Louisville Metro's status?

In 2004, Louisville Metro Health Department conducted a Behavioral Risk Factor Surveillance System (BRFSS) telephone survey of over 2,000 Louisville Metro adults. Included in this survey were questions related to mental health. One question was: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"

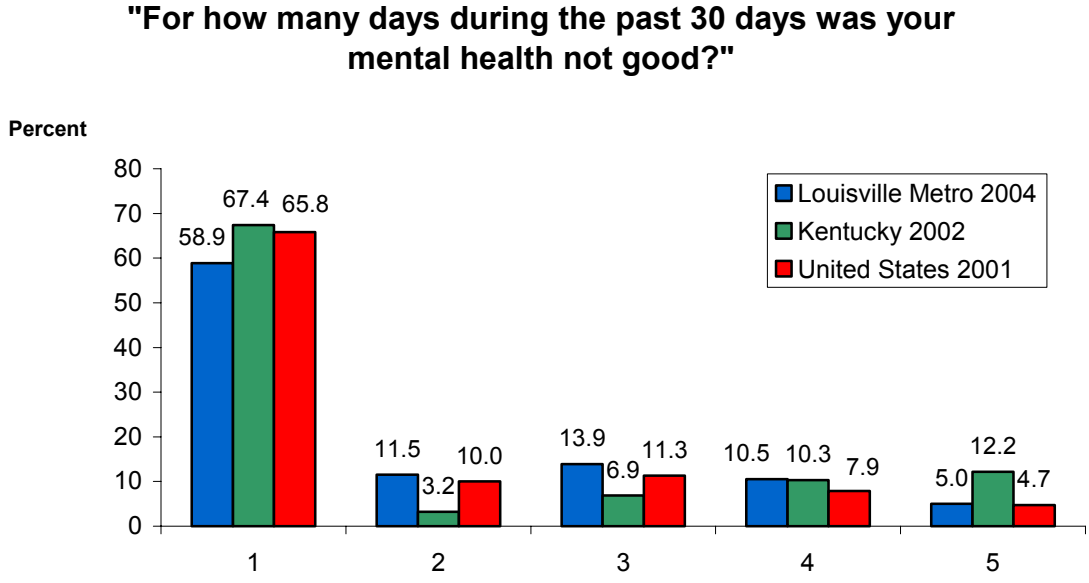
The survey found that about 41% of those interviewed had mental health that they perceived was "not good" at least one day out of the past month. Eleven percent of the respondents reported fourteen or more days during the past month when they considered their mental health "not good." The percent responding with fourteen or more days was highest for females (13.7% for White females and 17.2% for African American females) and lower for males (7.6% for White males and 6.5% for African American males).



In 2002, the State of Kentucky asked this question in a BRFSS survey and found that 33% of Kentucky adults experienced one or more days out of the last thirty days where their mental health was not good and 18.7% responded with 14 or more days.



In a 2001 national survey, 34% experienced one or more days during the past month where they considered their mental health to be "not good." The available national data combined different numbers of days together. The graph below uses those national categorizations for the number of days of "not good" mental health. The percent of people reporting **zero** days of "not good" mental health is slightly lower for Louisville Metro residents compared to Kentucky, and the United States.

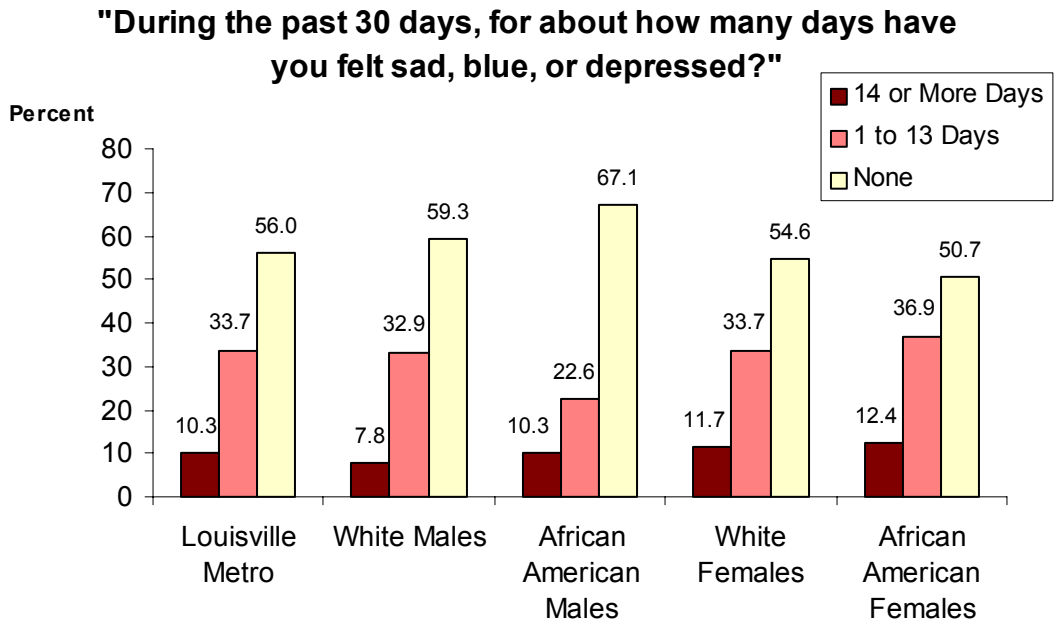


The 2004 Louisville Metro BRFSS survey asked: "During the past 30 days, for about how many days have you felt sad, blue, or depressed?" Forty-four percent of those interviewed

reported one or more days of sadness or depression out of the last thirty. Ten percent of Louisville Metro respondents reported 14 or more days of sadness or depression out of the last thirty.

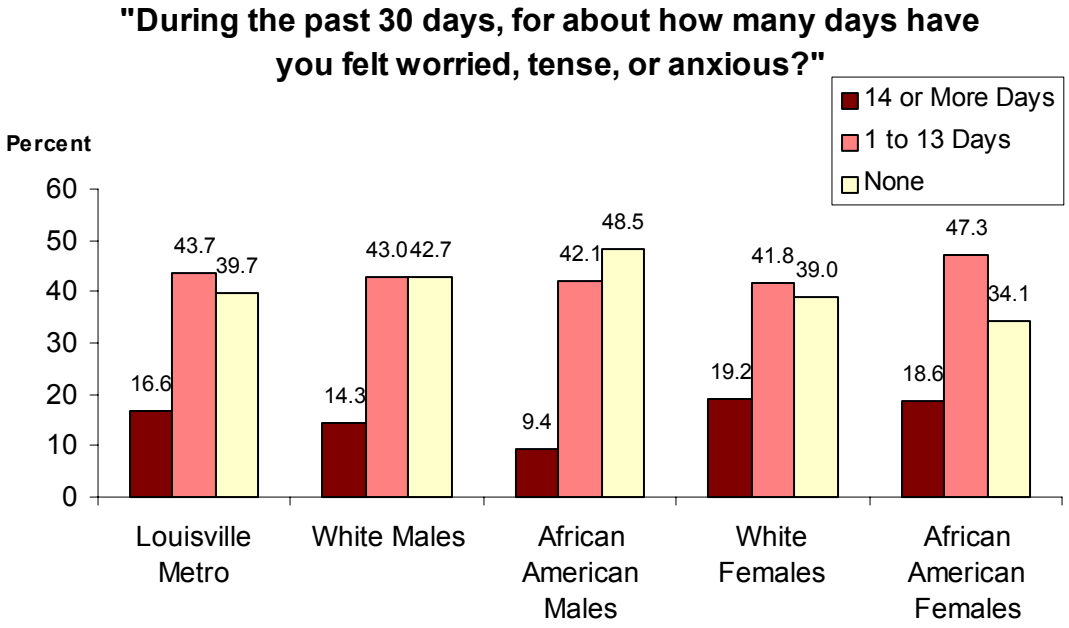
African American men in Louisville Metro are less likely to report days of sadness or depression with only 33% reporting at least one day of sadness or depression out of the past thirty. African American women in Louisville Metro are more likely to report days of sadness or depression with 49 % reporting at least one day of sadness or depression out of the past thirty.

No US or Kentucky data were available for this and the remaining BRFSS questions reported in this section.



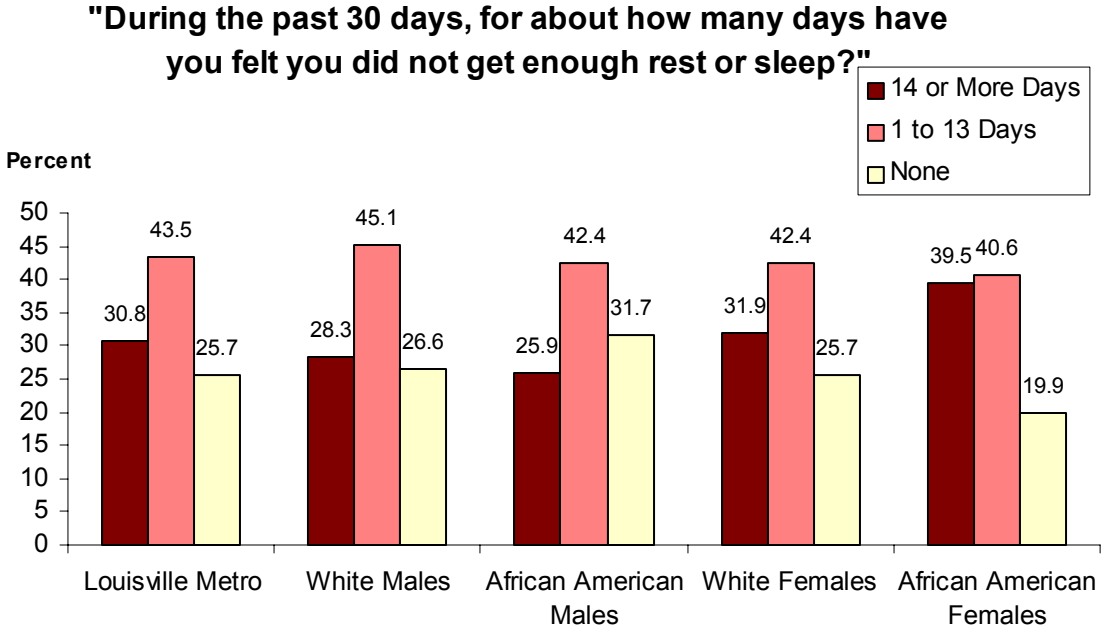
Another question on the 2004 Louisville Metro BRFSS survey was: "During the past 30 days, for about how many days have you felt worried, tense, or anxious?" Sixty percent of those surveyed reported one or more days of worry or anxiety out of the last thirty days. About seventeen percent reported 14 or more days of worry or anxiety during the past month.

African American men in Louisville Metro were less likely to report 14 or more days of worry or anxiety (9.4%) while 18.6% of African American women and 19.2% of White women reported 14 or more day of sadness or depression. African American women (65.9%) were the most likely group to report one or more days of sadness or depression during the past month.



The final mental health related question on the 2004 Louisville Metro BRFSS survey was: "During the past 30 days, for about how many days have you felt you did not get enough rest?" Over seventy-four percent of those interviewed from Louisville Metro reported not getting enough rest at least one day in the preceding 30 days. About thirty-one percent reported 14 or more days without adequate rest during the past month.

The highest percent reporting not getting enough rest at least 14 days during the last month was African American females (39.5%). The lowest percent was among African American males (25.9%) followed by White males (28.3%).



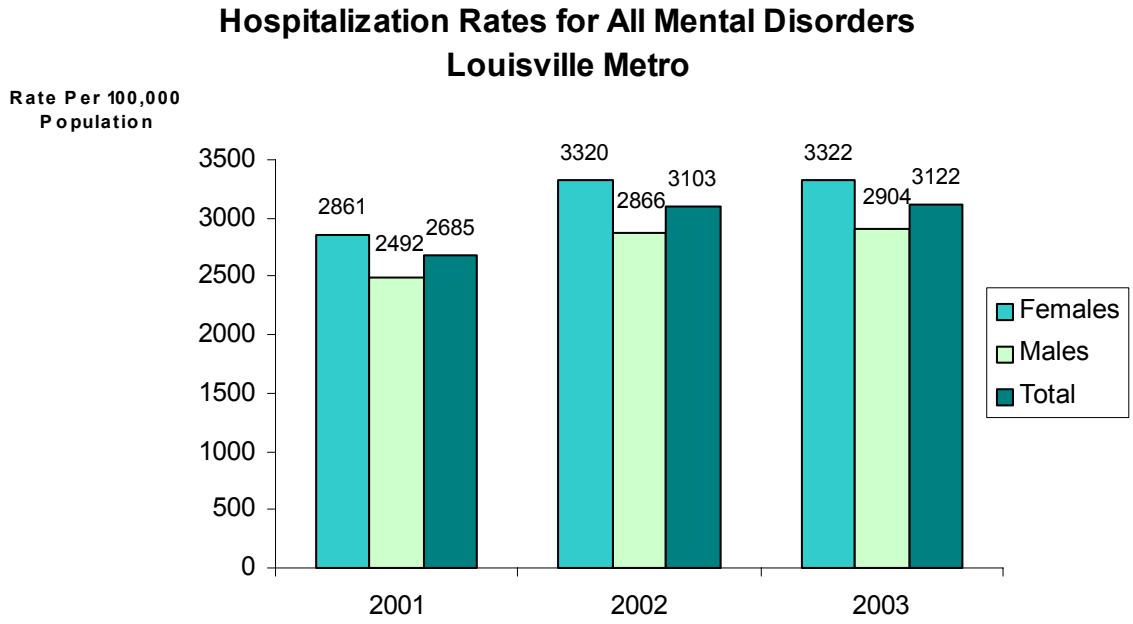
In addition to the BRFSS data, data were analyzed for mental health related hospitalizations of Louisville Metro residents in Kentucky hospitals during 2000 through 2003. These data were compared to data for hospitalizations in the United States during 2002. While these data only reflect mental illness resulting in a hospital stay (and the same person can have more than one hospital stay in a given year), hospitalization rates provide some analysis of the more severe mental illnesses in our community.

Hospitals code the hospital stay by using the International Classification of Diseases (9th Edition). They can code each hospital visit with up to ten diagnostic codes from the ICD-9 codes. The diagnostic codes used for mental illness are grouped into the following categories:

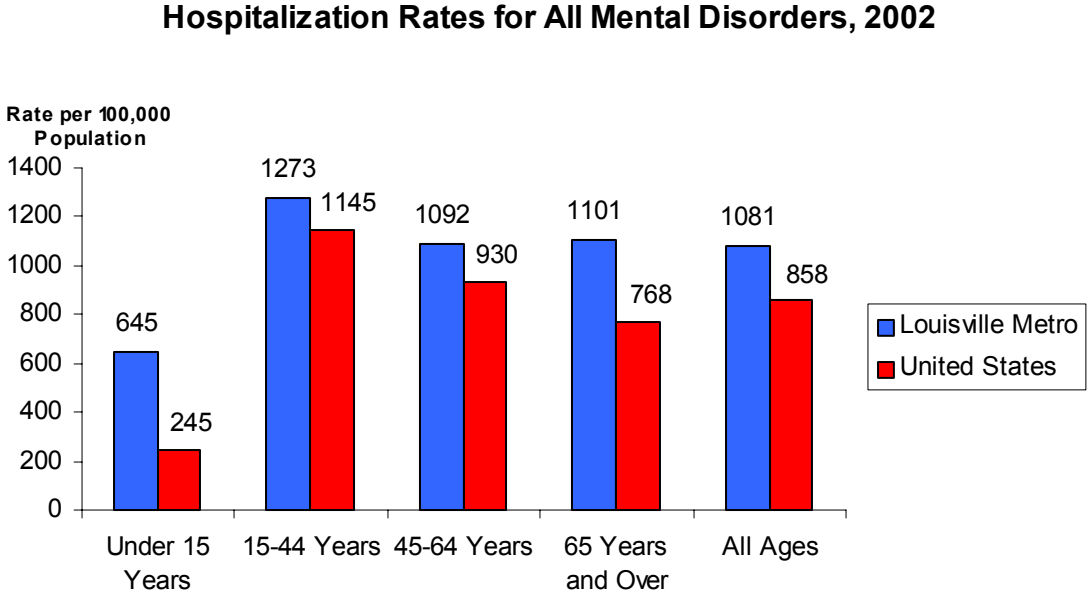
- Psychoses (ICD-9 codes 290 - 299)
- Neuroses, Personality Disorders and Other Nonpsychotic Mental Disorders (ICD-9 codes 300 - 316)
- Mental Retardation (ICD-9 codes 317- 319)
- **All Mental Disorders (ICD-9 codes 290 - 319)**

Comparisons over time in Louisville Metro and comparisons between Louisville Metro and the United States for 2002 are included. There are up to ten diagnoses in the Kentucky hospital data. When looking at Louisville Metro data over time, the first five diagnostic codes are examined to see if there is a mental illness related code. When comparing to the Unites States only the first diagnostic code is used to be consistent with the available US data.

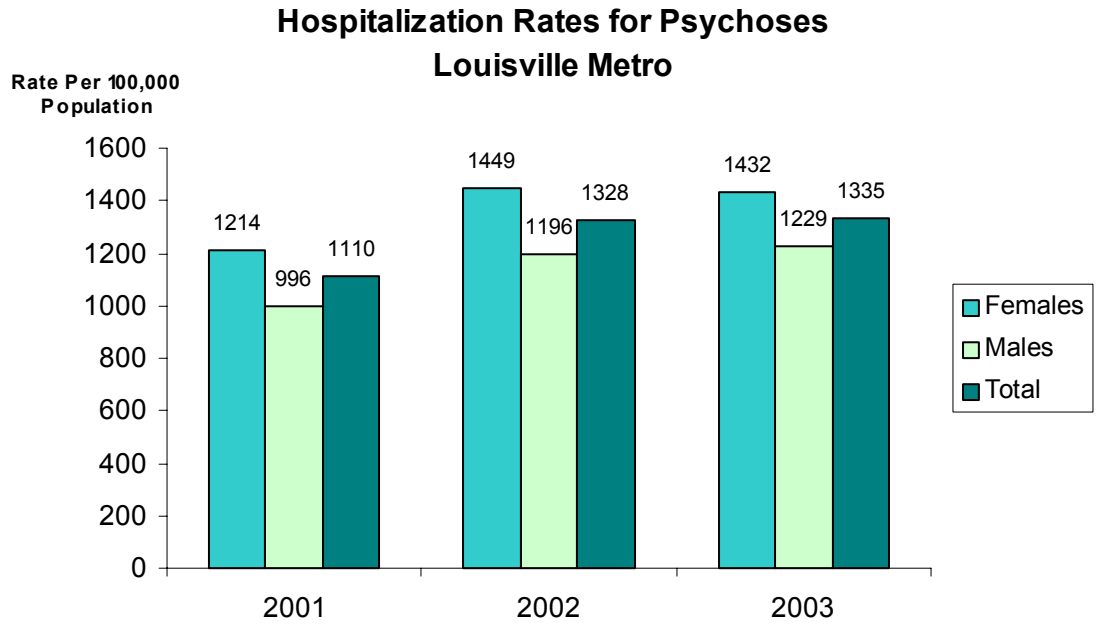
Rates of hospitaliztions for treatment of all mental disorders have increased in Louisville Metro over the three year period from 2001 to 2003 when looking for a mental disorder in any of the first five diagnostic codes. In 2003, there were 3,122 mental disorder related hospitalizations for every 100,000 people in the Louisville Metro population. The rates for females were slightly higher than the rates for males.



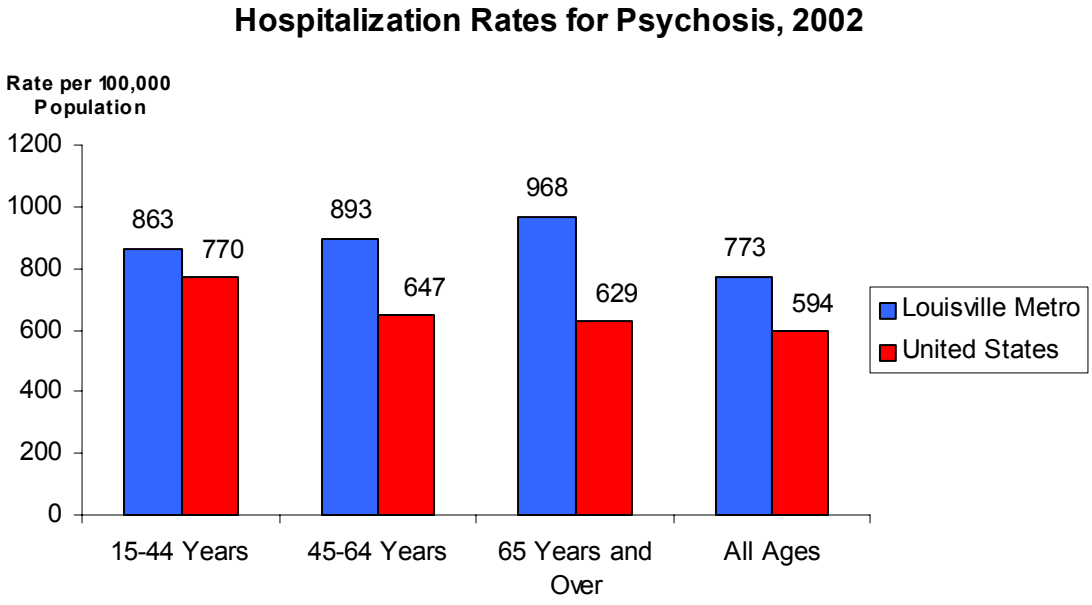
When comparing hospitalization rates for mental disorders, using only the first diagnostic code, Louisville Metro rates are higher than the United States rates druing 2002. The difference is greatest for Louisville Metro residents fifteen years of age and younger, followed by those residents 65 years of age and older.



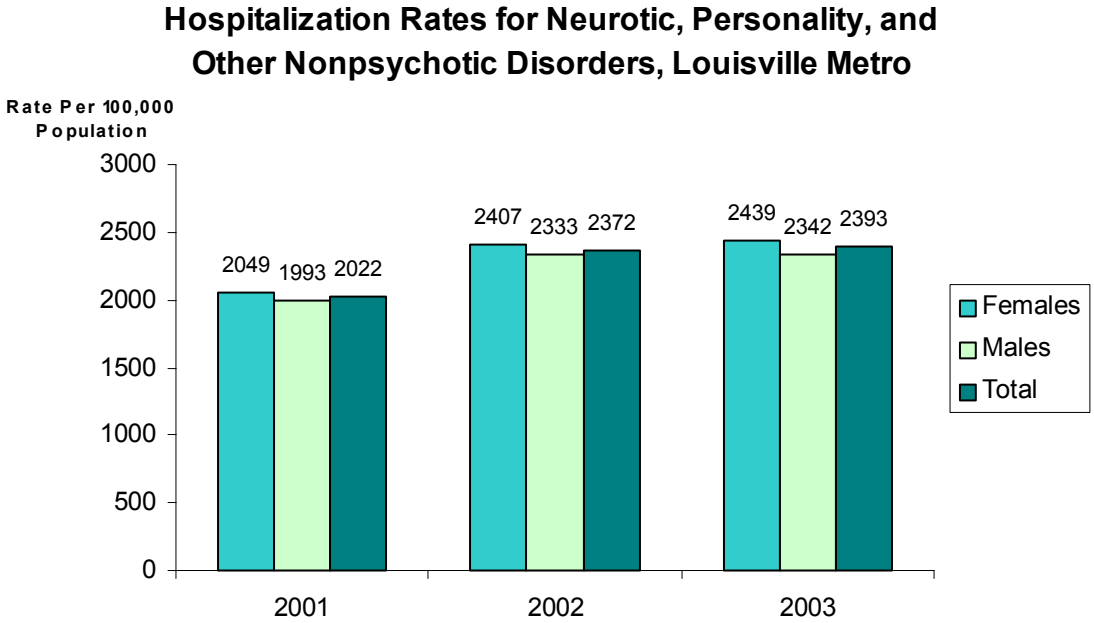
Hospitalization rates for psychotic disorders have increased slightly in Metro Louisville over the three year period from 2001 to 2003 when looking for a psychotic disorder in any of the first five diagnostic codes. In 2001, there were 1110 psychosis related hospitalizations for every 100,000 in the population while in 2003 the rate was 1335 per 100,000. Females have a consistenly higher hospitalization rate for psychosis than males in Louisville Metro.



When comparing hospitalization rates for psychosis, using only the first diagnostic code, Louisville Metro rates are higher than United States rates, overall and for every age group with available data in 2002. The Louisville Metro rate was 773 while the US rate was 594 per 100,000 population.



Hospitalization rates for neurotic, personality, and other nonpsychotic disorders have increased slightly in Metro Louisville when looking at the first five diagnostic codes for each hospital stay. In 2001 the rate was 2022 and in 2003 it was 2393 per 100,000 population. Differences between males and females were slight.



Suicide

What is it?

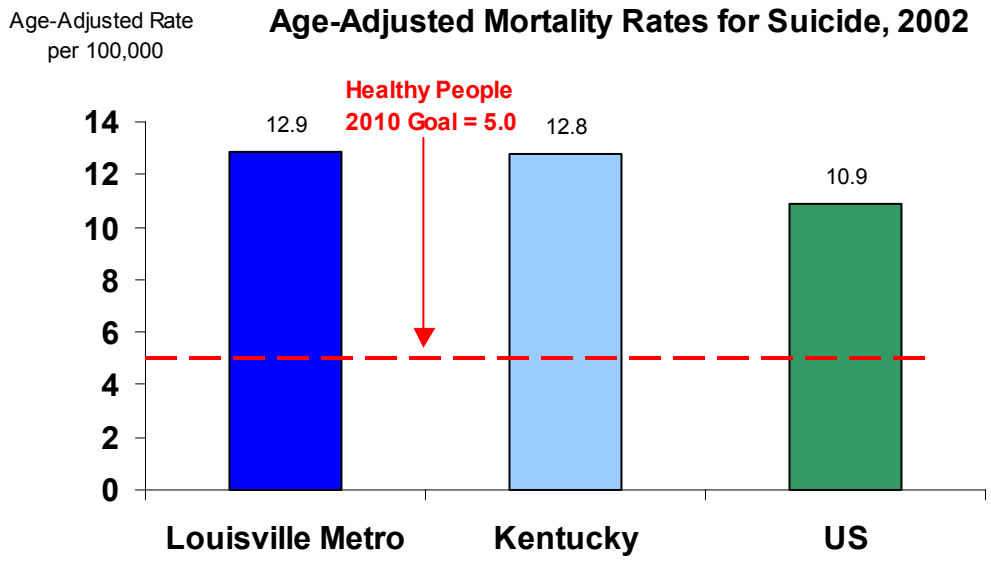
Suicide is a fatal injury that is intentionally self-inflicted. Suicide does not include fatal injuries that are the result of reckless behavior such as drinking and driving.

Why is it important?

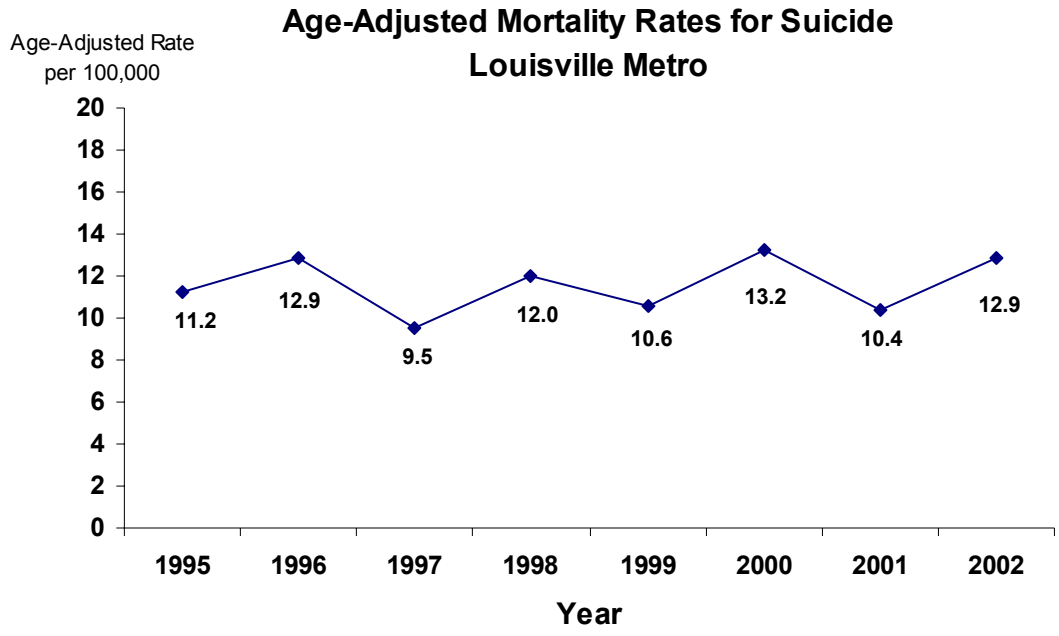
In 2002, there were 31,655 suicides in the United States[2] and 54% of them involved a firearm.[2] Among young people aged 15-24 years, there were 4,010 suicides, making it the third leading cause of death in that age group.[9] Nationally, suicide rates are especially high among people 65 years of age and older.[10] Suicide can often be prevented with effective clinical care for mental, physical and substance abuse disorders.[10]

What is Louisville Metro's status?

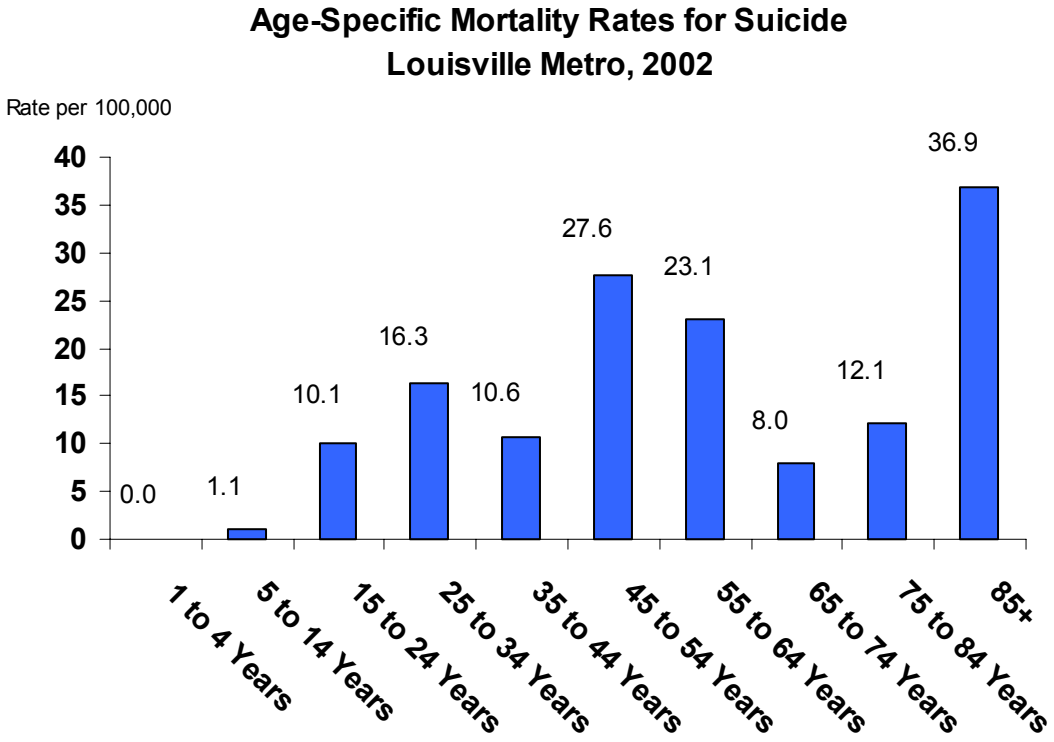
In 2002, there were 91 suicide deaths in Louisville Metro. The age-adjusted mortality rate from suicide was 12.9 deaths per 100,000 population, similar to the state rate and slightly higher than the national rate. It is twice the *Healthy People 2010* goal.[3]



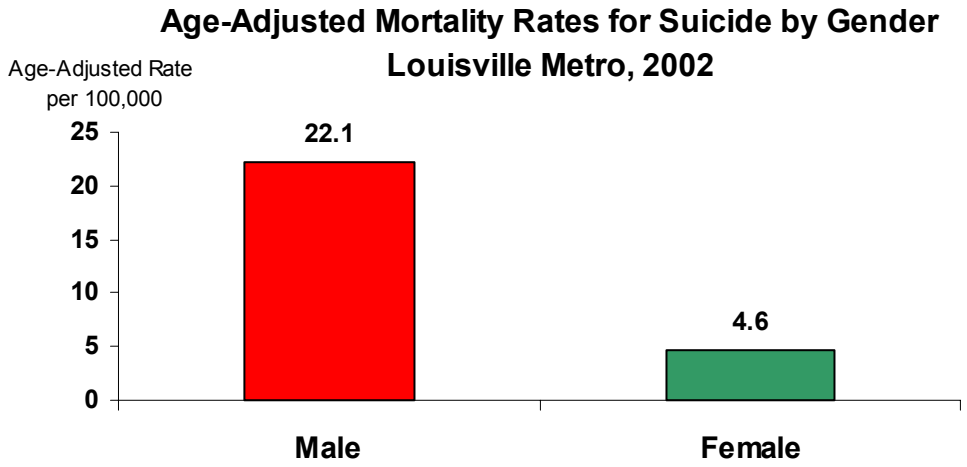
Suicide deaths in 2002 were up from the previous year, however, both the number and rate of suicide deaths in Louisville Metro have fluctuated since 1995 with no consistent trend.



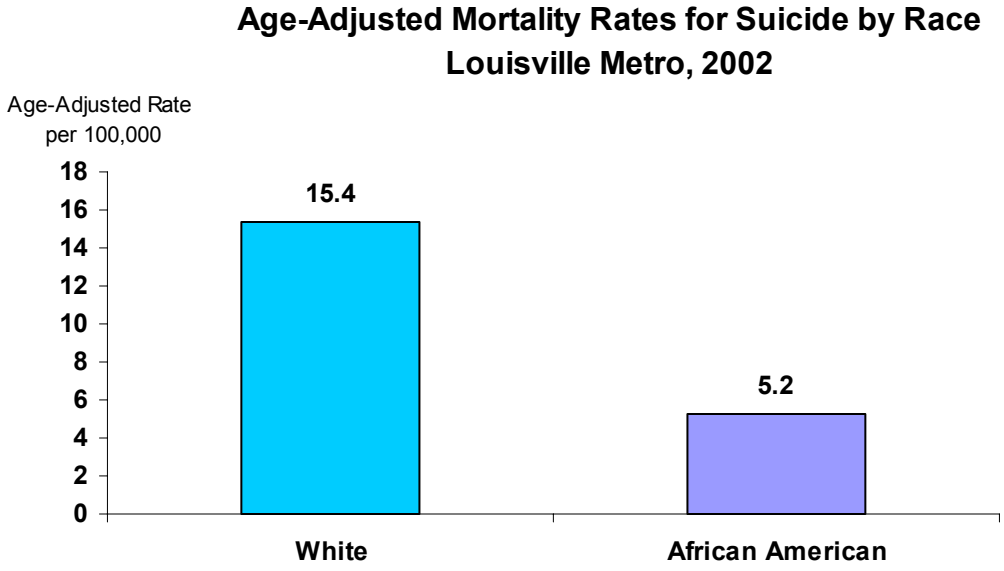
Suicide rates in Louisville Metro in 2002 were highest among people 85 year of age and older (36.9 per 100,000 population) and those ages 45 to 54 years (27.6).



The suicide rate for males in 2002 was more than four times that for females.



Of the 91 suicide deaths in Louisville Metro in 2002, 91.2% were non-Latino white, 8.2% were non-Latino African American and 1.1% was Latino. The 2001 age-adjusted suicide rate for Whites in Louisville Metro was triple that of African Americans.



What are we doing?

Good health means a healthy body and a healthy mind. Health must be viewed in a holistic way, including a mental health component.

The Kentucky State Legislature passed HB 843 during the 2000 legislative session. This bill required Seven Counties Services, Inc. to convene a Regional Planning Council and produce a plan for mental health and substance abuse needs/services. Through this process that began in 2000 and still continues, service providers, health department representatives, consumers, family members, local and state elected officials, and advocates continue working together in Metro Louisville around these priorities to:

- Successfully transition persons with mental illness and/or substance abuse from institutional care (i.e. hospitals, jails, prisons,) to community care;
- Reduce barriers to accessing mental health and substance abuse services;
- Increase supported housing for persons with mental illness and/or substance abuse;
- Make the most appropriate medications available to those who need them and expand medication monitoring; and
- Increase the ability of physicians, school personnel, clergy, law enforcement, and other professionals to effectively identify, screen and refer individuals to appropriate mental health/substance abuse services.

Recent years also have seen unprecedented cooperation and collaboration among mental health providers and others in the community. For example, several local mental health providers work with school counselors, teachers, parents and students in almost all of the Jefferson County public elementary schools.

Seven Counties Services, Inc., the community mental health center for the region, also is a partner with Jefferson County Public Schools, Louisville Metro Health and Human Services Cabinet, and the state Department of Community Based Services in the Neighborhood Place Coalition, which provides one-stop resources throughout Louisville Metro for a wide variety of human service needs.

Another Louisville Metro collaborative example is LANSAT (the Louisville Adolescent Network for Substance Abuse Treatment), a partnership among private and public agencies in Louisville Metro and the state. LANSAT offers assessment, referrals to treatment, case management, treatment groups, a resource library and a youth clubhouse for residents age twelve to twenty years old in Louisville Metro.

The Louisville Metro Jail also offers alcohol and drug services in jail to help persons get treatment and avoid the "revolving door" that, without treatment, so often leads back to jail. There also are treatment groups at the Community Corrections Center, a work release group at JADAC, and another at the women's jail.

In addition, Louisville Metro government helps provide funding to the Crisis and Information Center, which offers free 24-hour, seven-days-a-week telephone crisis and referral services. The Crisis and Information Center staff has access to more than 3,500 area resources (i.e., mental health, physical/sexual abuse, HIV/AIDS, alcohol/drug abuse, services for persons with disabilities). The center is one of the nation's busiest, responding to about 80,000 calls each year.

What else do we need to do?

The Health Department needs to continue to emphasize the "the mind-body connection" in its health promotion efforts, and seek to reduce the stigmas around mental illness. Stigma reduction not only helps decrease the reluctance of individuals to ask for help for their mental illness but stops perpetuating the public's ignorance, fear and rejection of those with a mental illness.

The Health Department needs to continue to improve dialog internally and with the major public sector mental health provider, Seven Counties Services. The two organizations must continue to seek opportunities for collaboration in the areas of advocacy, grants, and public education and awareness activities.

References

1. U.S. Department of Health and Human Services. *Mental Health: A Report of the Surgeon General—Executive Summary*. Available at http://www.surgeongeneral.gov/library/mentalhealth/summary.html Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999.
2. Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance Survey Data*. http://apps.nccd.cdc.gov/brfss/ Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2001-2002.
3. Kentucky Department for Public Health. *Kentucky Health Claims Data 2001-2003.* Kentucky Department for Public Health, Health Policy Development Branch. 2004.
4. Kozak LJ, Owings MF, Hall MJ. *National Hospital Discharge Survey: 2002 Annual Summary with Detailed Diagnosis and Procedure Data*. National Center for Health Statistics. Vital Health Stat 13(158). 2005.

Injuries

Unintentional Injury

What is it?

When we refer to unintentional injury, we mean physical or bodily harm that was not purposefully inflicted. Although they are often referred to as "accidents," unintentional injuries are not random and most are preventable.

Why is it important?

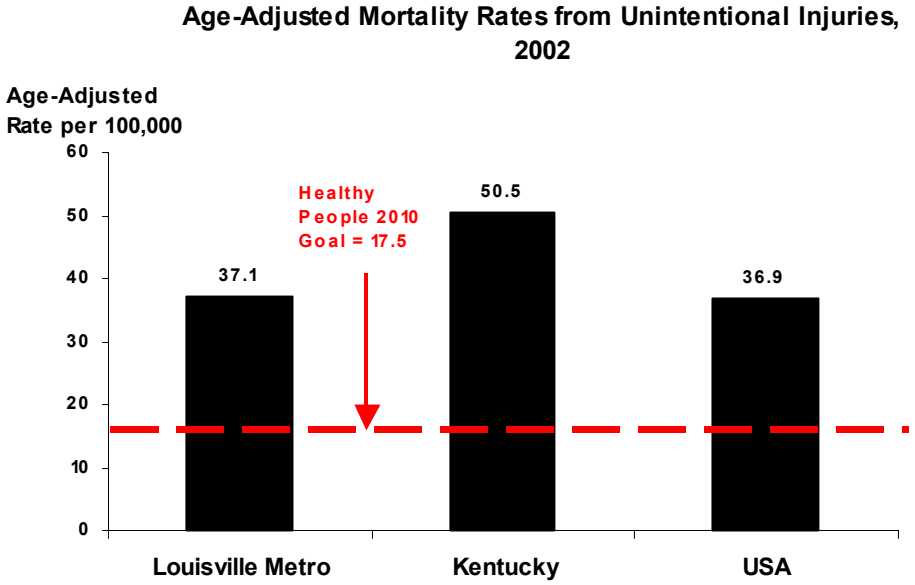
Nationwide, unintentional injury is a major cause of premature death and permanent disability. In fact, nationally, unintentional injury is the leading cause of death for people under the age of thirty.[1] In 2002, 106,742 deaths from unintentional injury occurred in the United States. The age-adjusted U.S. death rate from unintentional injury in 2002 was 36.9 per 100,000 population. Unintentional injury was the fifth leading cause of death for people of all ages.[2]

Unintentional injuries affect not only individuals, but society as well. Medical care, rehabilitation, lost wages and lost productivity associated with injuries cost this country approximately $224 billion each year.[1]

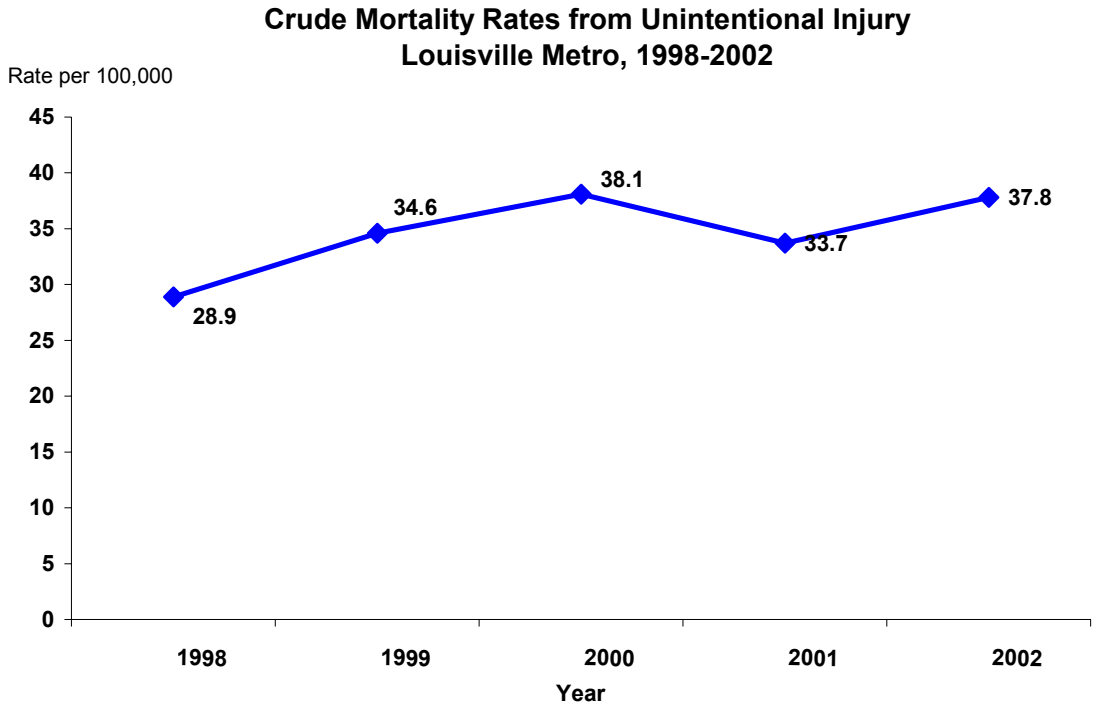
Unintentional injuries are also an important public health issue because they are largely avoidable and represent an opportunity for prevention efforts that could significantly impact premature mortality.

What is Louisville Metro's status?

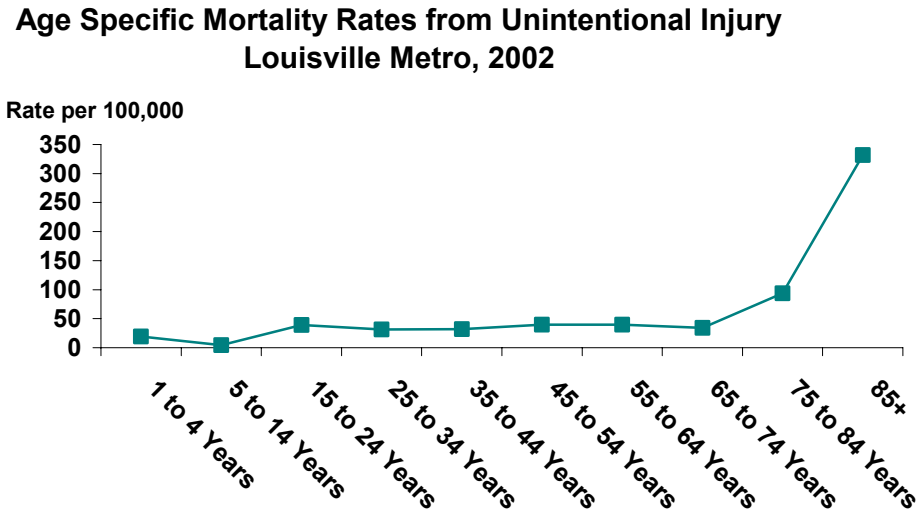
In 2002, there were 262 unintentional injury deaths in Louisville Metro. The age-adjusted mortality rate from unintentional injury was 37.1 deaths per 100,000 population. This was lower than the state rate of 50.5 but slightly higher than the national rate of 36.9.[2] However, the Louisville Metro rate is more than twice the national *Healthy People 2010* goal.[3]



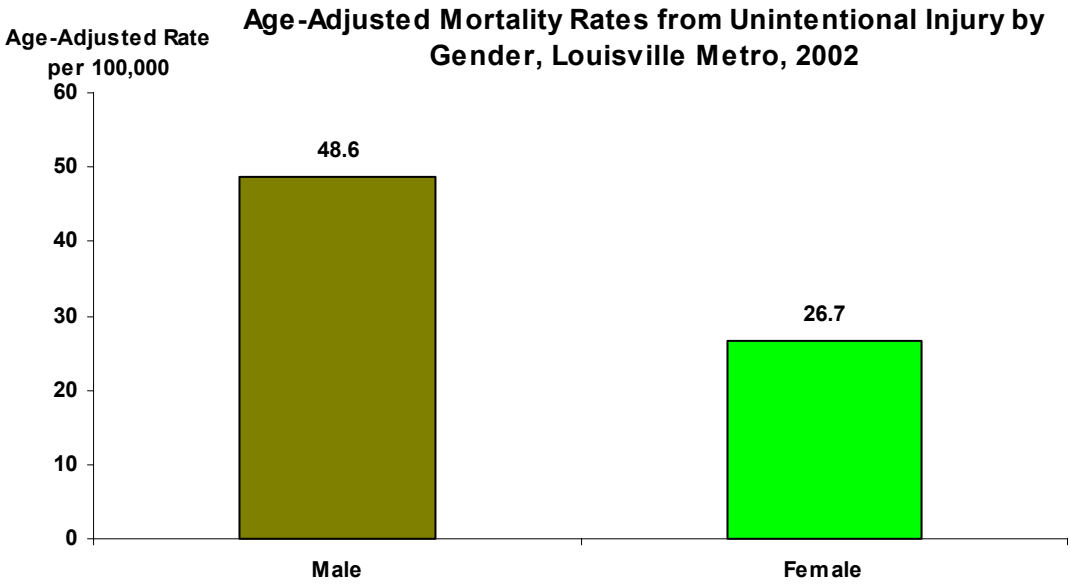
The year 2002 saw an increase in the Louisville Metro mortality rate from unintentional injury compared with the previous year. The unadjusted, or crude, mortality rate in 2002 was 37.8 per 100,000 population, compared to 33.7 in 2001,[2] 38.1 in 2000,[4] 34.6 in 1999[5] and 28.9 in 1998.[6]



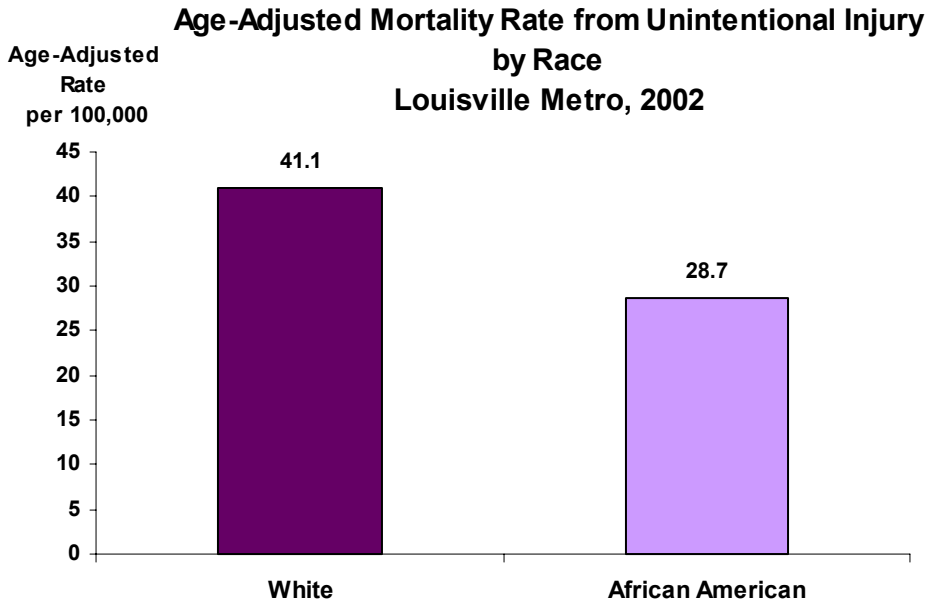
While the actual number of deaths was greatest in the 45 to 54 years age group, age-specific mortality rates from unintentional injury were highest in the 85 years and older age group.



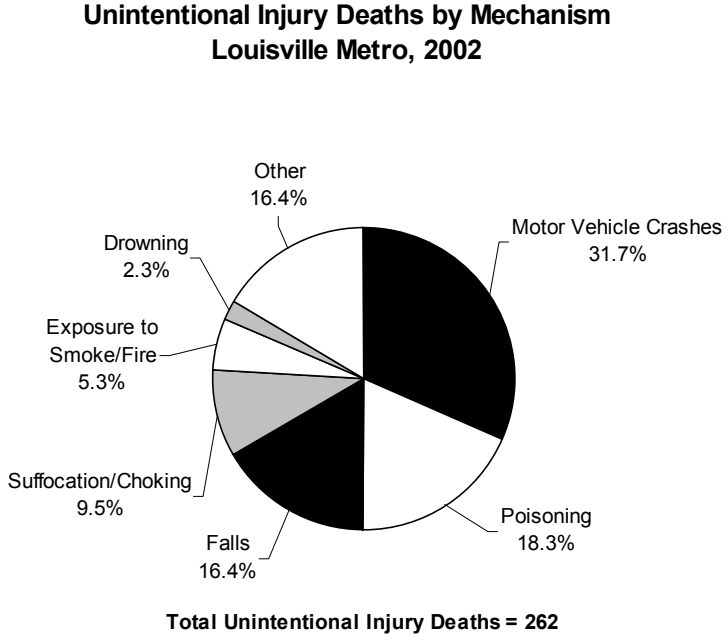
The age-adjusted mortality rate from unintentional injury for males, 48.6, was nearly twice the rate for females, 26.7.



Of the 262 people who died from unintentional injury that occurred in Louisville Metro in 2001, 83.2% were non-Latino whites, 16.2% were non-Latino African Americans, 1.5% were of Latino origin and 0.8% were non-Latinos of a race other than white or African American. The age-adjusted rate of mortality from unintentional injury for whites was 41.1 deaths per 100,000 population. The rate for African Americans was lower, 28.7. The Latino rate was not computed due to the small number of deaths (four).



The largest category of unintentional injury deaths was motor vehicle crashes (31.7%), followed by accidental poisonings (18.3%) and falls (16.4%). There were 48 accidental poisoning deaths, all adults with a median age of 42.5 years. All of these 48 deaths were classified as accidental poisoning by exposure to drugs or biological agents. The deaths due to falls were 43 individuals with a median age of 82 years.



Motor Vehicle Crashes

What are they?

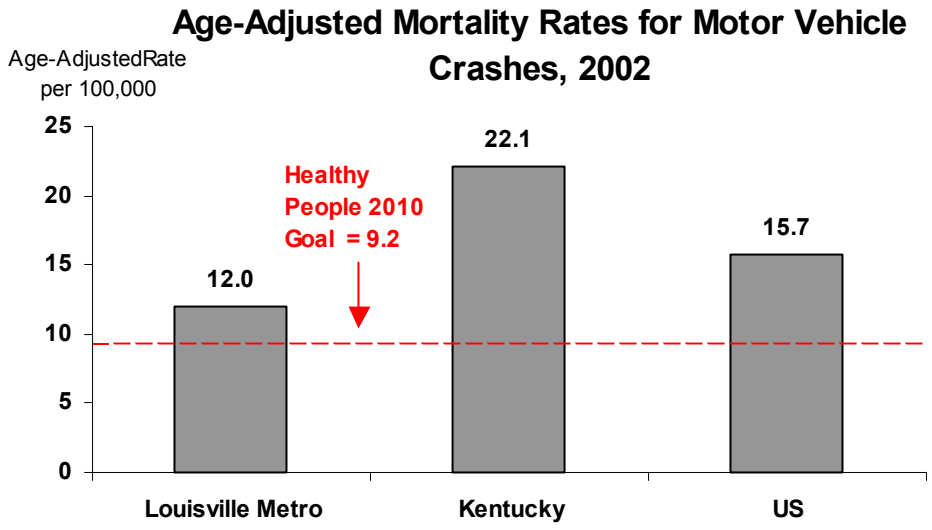
Injuries from motor vehicle crashes include those that occur to the occupants of motor vehicles as the result of a collision, as well as those occurring to pedestrians or cyclists who collide with motor vehicles. In 2002, there were 83 deaths of Louisville Metro residents resulting from motor vehicle crashes.

Why are they important?

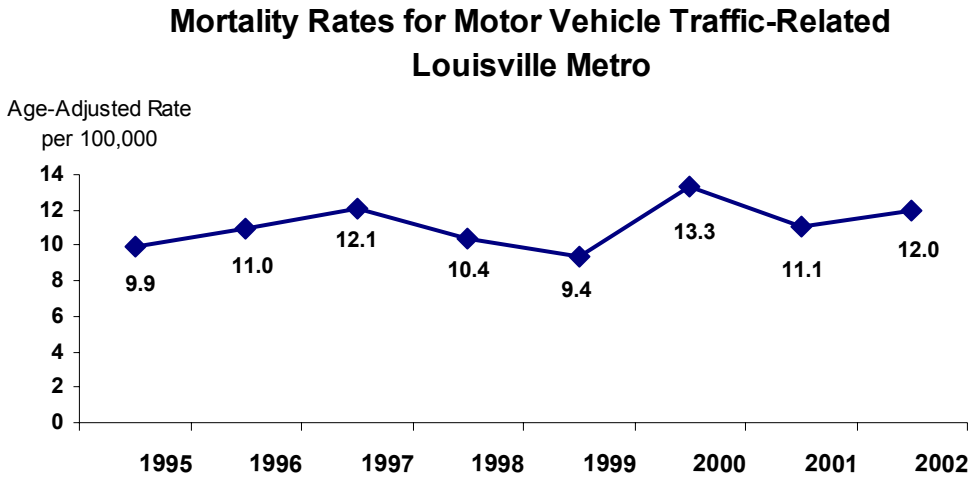
Nationally, as well as in Louisville Metro, motor vehicle crashes cause more unintentional injury deaths than any other category. They are the leading cause of death for children and young adults nationally. Each year in the United States, over 41,000 people die as the result of motor vehicle crashes. Millions more are injured. Costs associated with injury and death from motor vehicle crashes represents significant burden on our nation's economy, approximately $150 billion annually.[7]

What is Louisville Metro's status?

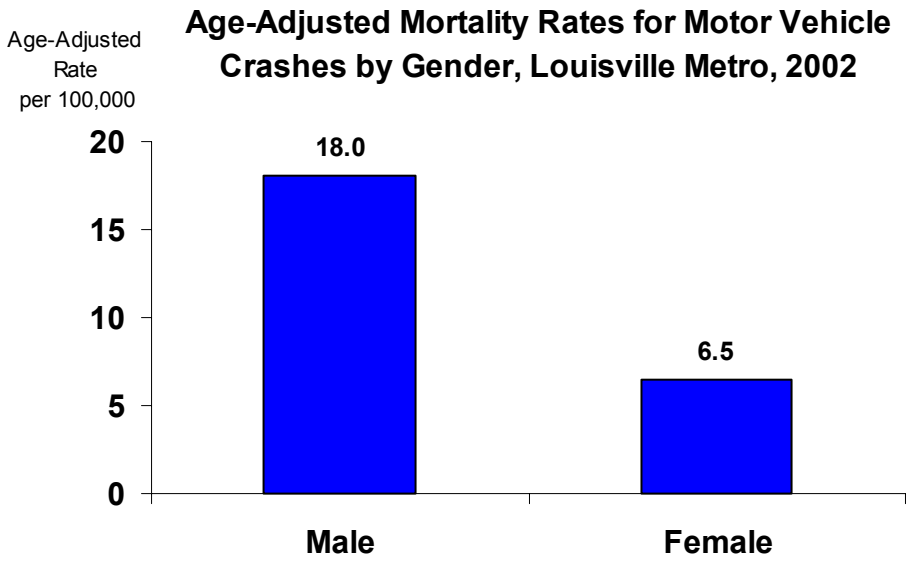
In 2002, the Louisville Metro age-adjusted mortality rate from traffic-related motor vehicle crashes was 12.0 deaths per 100,000 population, considerably lower than both the state (22.1)[2] and national (15.7)[2] rates but still higher than the Healthy People 2010 goal of 9.2 for all motor vehicle crashes.[3]



During the period 1995-2002, the average crude mortality rate from traffic-related motor vehicle crashes was 11.1 deaths per 100,000 population.

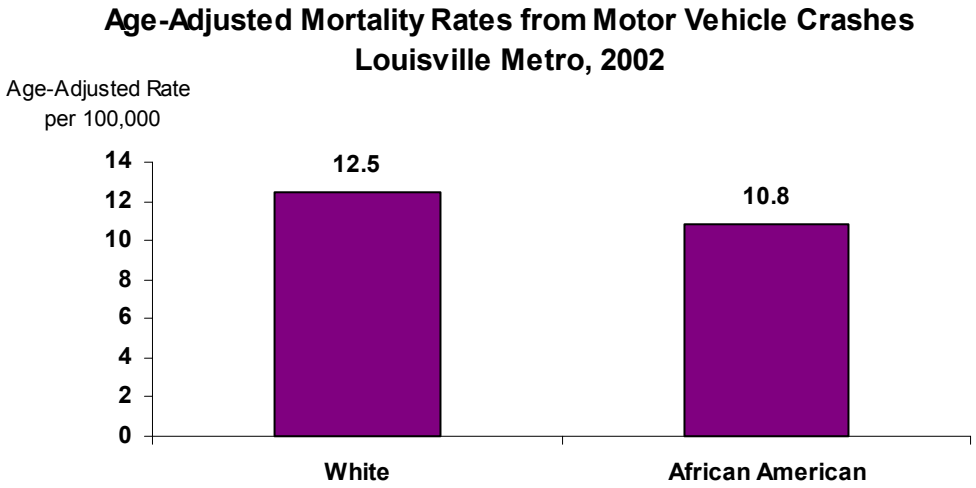


In Louisville Metro, the age-adjusted mortality rate during 2002 from traffic-related motor vehicle crashes for males was two and three fourths times the rate for females (18.0 compared to 6.5).



Of the 83 traffic-related motor vehicle deaths that occurred in Louisville Metro during 2002, 78.3% were non-Latino white, 16.9% were non-Latino African American, 5.2% were Latino and 2.4% were non-Latinos of a race other than white or African American. The age-adjusted

mortality rate from traffic-related motor vehicle crashes for whites was slightly higher than that for African Americans. The number of motor vehicle crash deaths for Latinos in Louisville Metro was too small to compute a meaningful mortality rate.



Pedestrian and Bicycle Crashes

What are they?

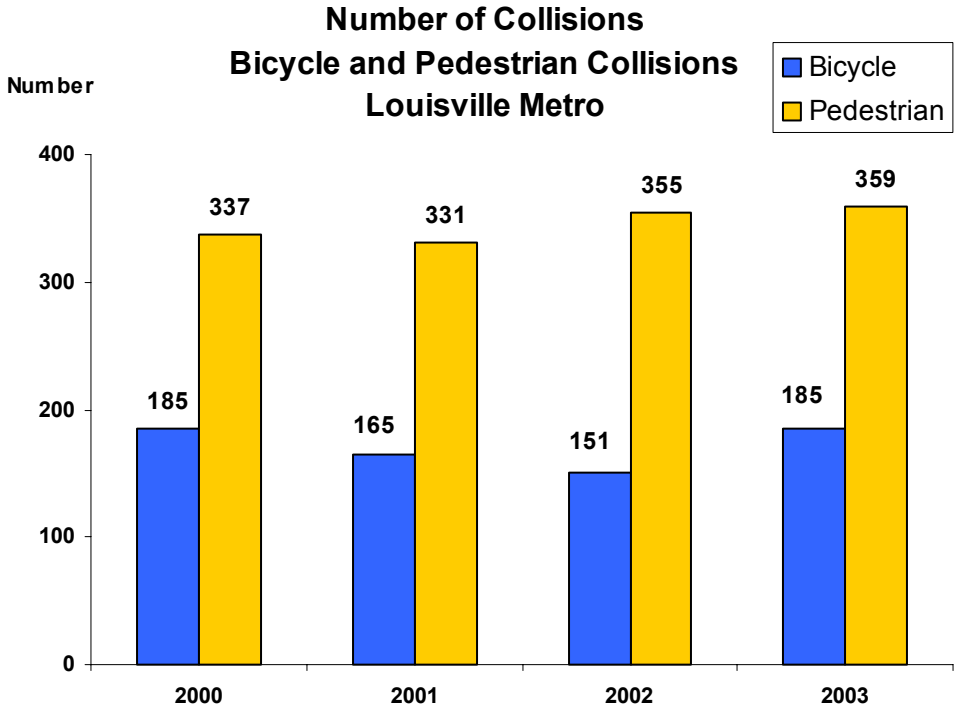
The pedestrian and bicycle crashes reported here include a collision between one or more motor vehicles and either one or more pedestrians or one or more bicyclists that are reported on a Kentucky Uniform Police Traffic Collision Report.

Why are they important?

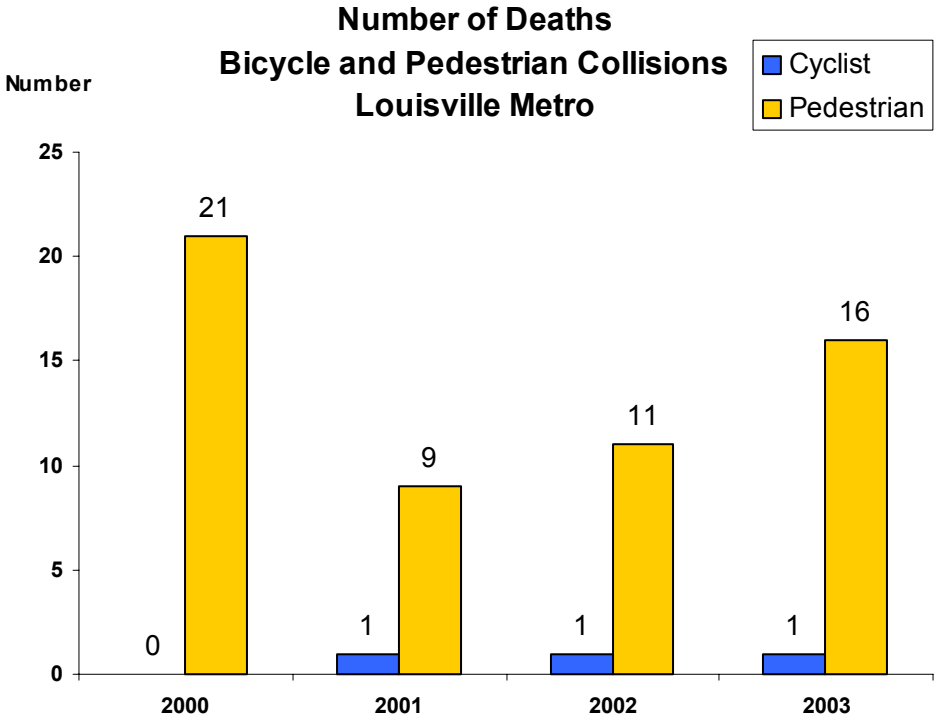
When a motor vehicle collides with pedestrian or a bicyclist, the pedestrian or cyclist does not have the protection that the driver has inside a motor vehicle. Therefore, the faster the speed of the motor vehicle upon impact, the more likely there will be serious injury or death for the pedestrian or cyclist. In addition, walking and bicycling are means of transportation that provide an excellent opportunity for the pedestrian or cyclist to get exercise while not contributing to air pollution.

What is Louisville Metro's status?

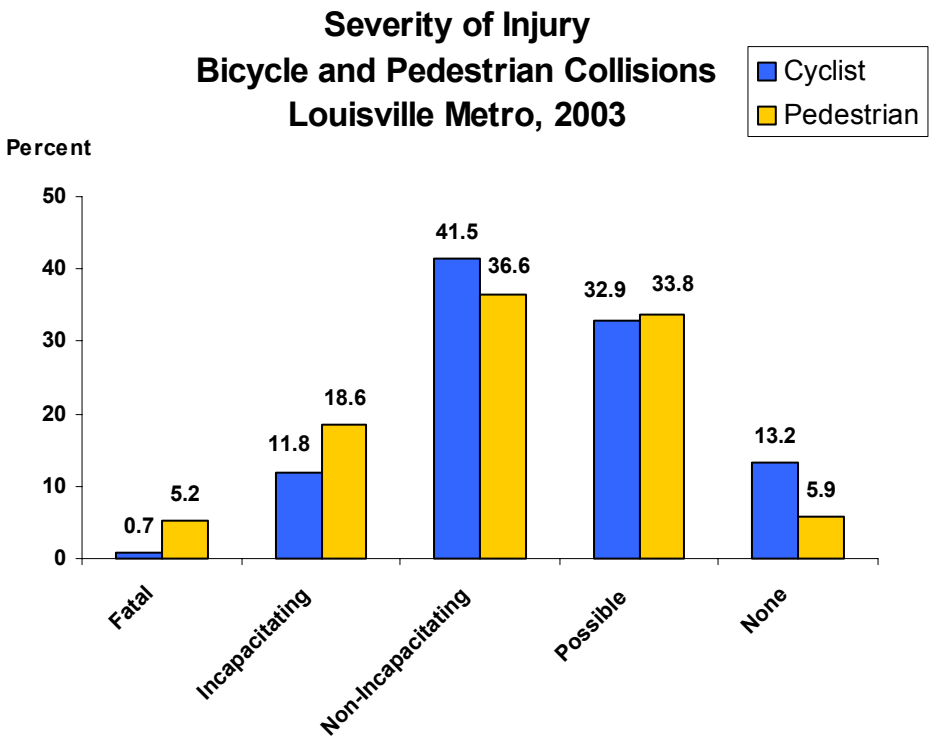
When looking at the Louisville Metro area, the number and rate of bicycle and pedestrian collisions have not changed substantially over the four-year period of 2000 through 2003. The annual rate as been approximately 0.5 per 1,000 population for pedestrian collisions and 0.25 per 1,000 population for bicycle collisions. There were from 331 to 359 pedestrian collisions and 151 to 185 bicycle collisions each year.



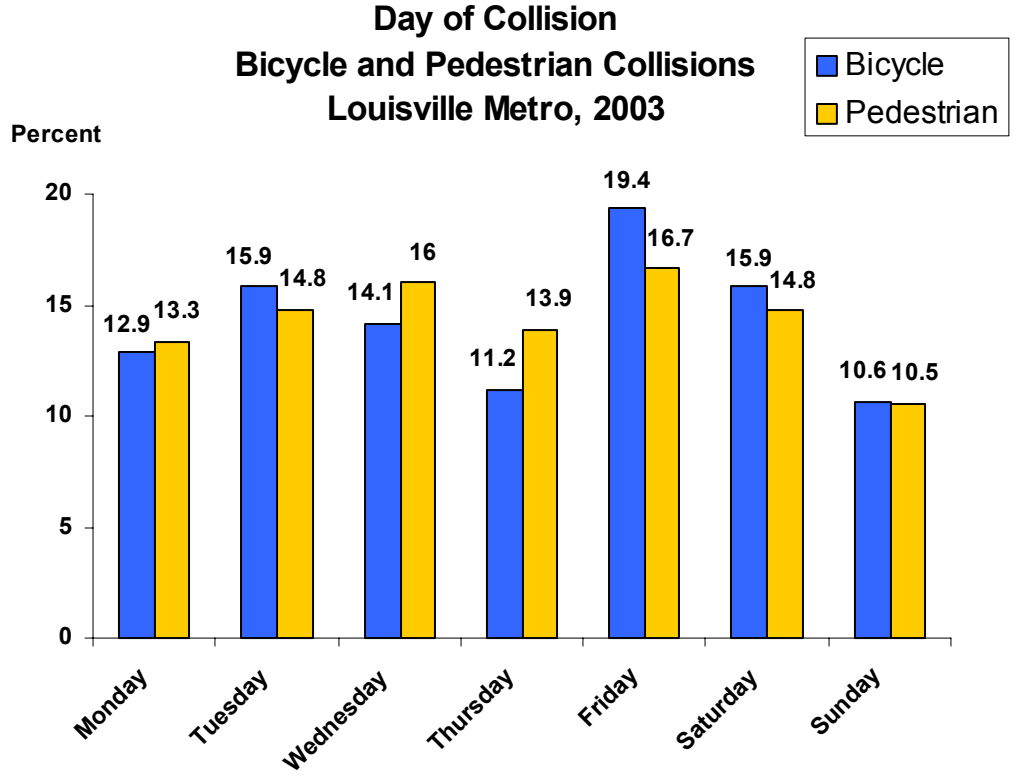
Over the same period of time the number of bicyclists killed in these collisions ranged from zero to one. The number of pedestrians killed ranged from nine to twenty-one each year.

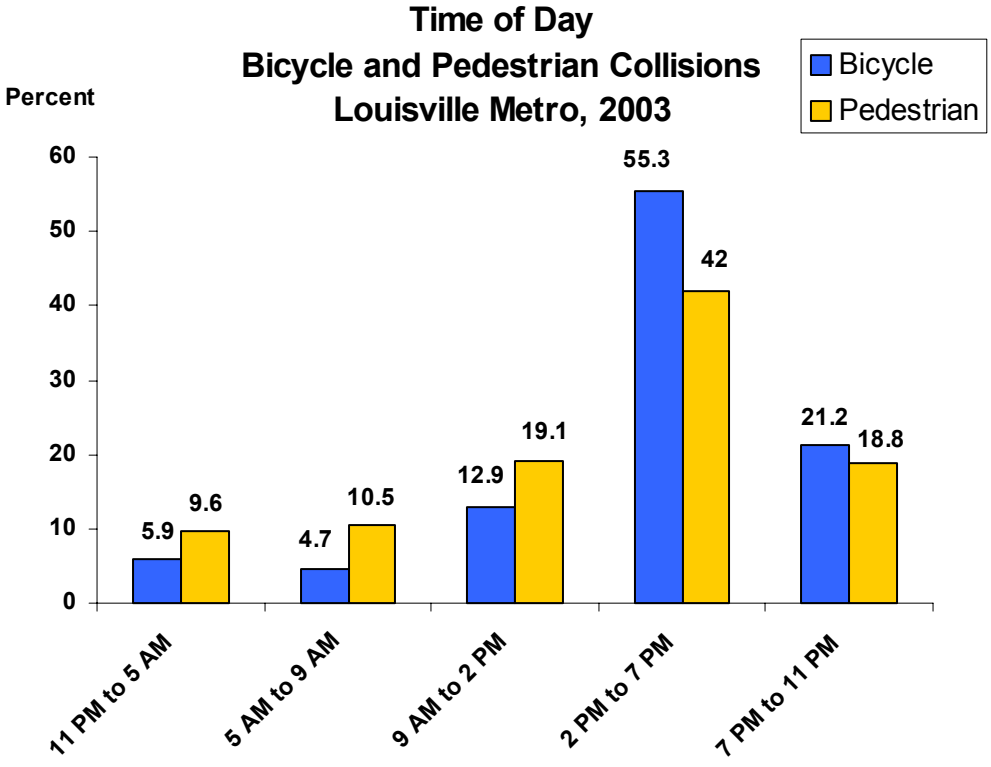


Detailed analysis was done on the Kentucky Uniform Police Traffic Collision Reports completed by the Louisville Metro Police in 2003, the first year after the merger of the City of Louisville and surrounding Jefferson County. During that year, the percent of collisions ending in the death of the pedestrian or cyclist was 5.2% and 0.7% respectively. In 18.6% of the pedestrian collisions the pedestrian was incapacitated and that was the case for the cyclist in 11.8% of the bicycle collisions.

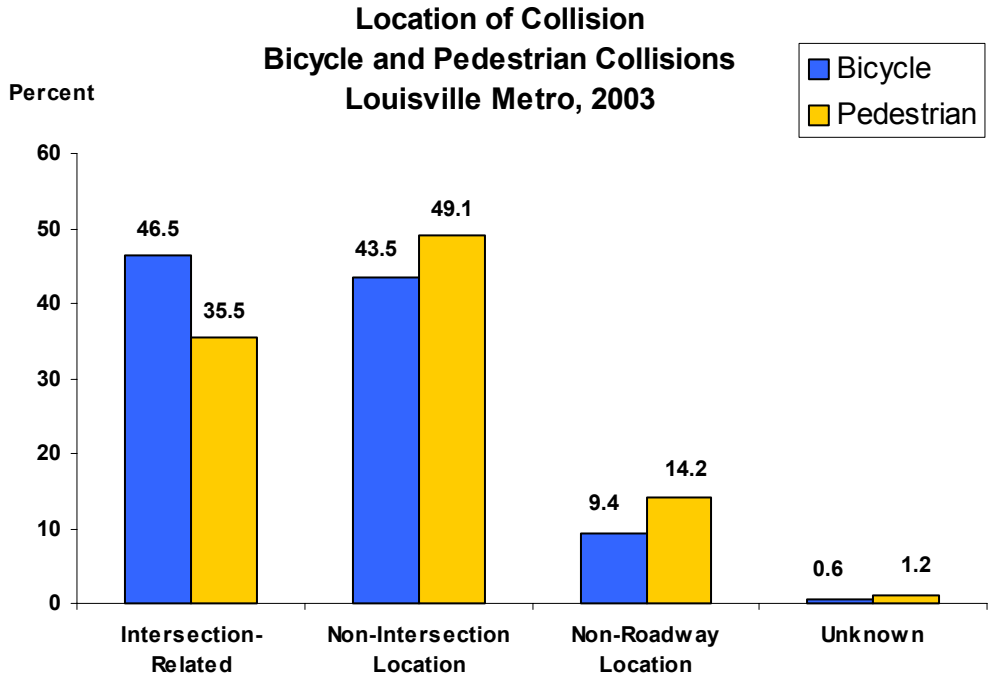


The vehicle collisions with pedestrians and bicyclists in Louisville Metro during 2003 were not generally the result of unusual weather or road conditions. Most collisions occurred daylight hours and on straight, level, and dry roadways. However, more collisions occur on Friday than any other day of the week, and more collisions occur during the afternoon/evening rush hours (2:00 to 7:00 PM) than any other time of day.

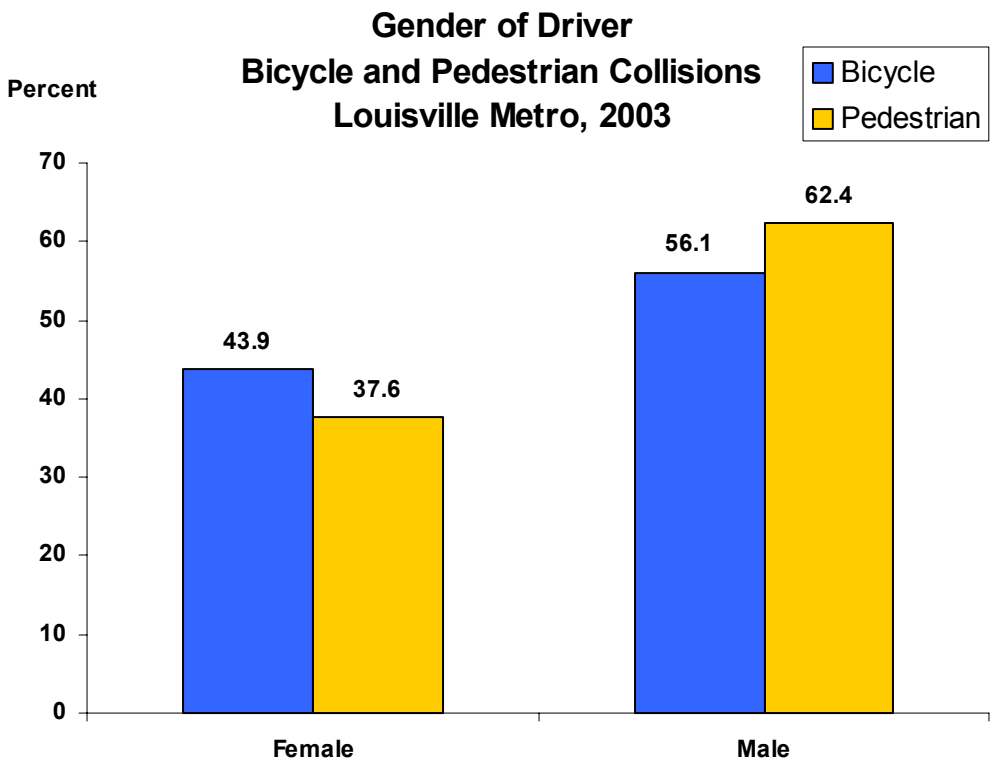

Day of Collision
Bicycle and Pedestrian Collisions
Louisville Metro, 2003
Bicycle
Pedestrian
Percent
20
15
10
5
0
12.9
13.3
15.9
14.8
14.1
16
11.2
13.9
19.4
16.7
15.9
14.8
10.6
10.5
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

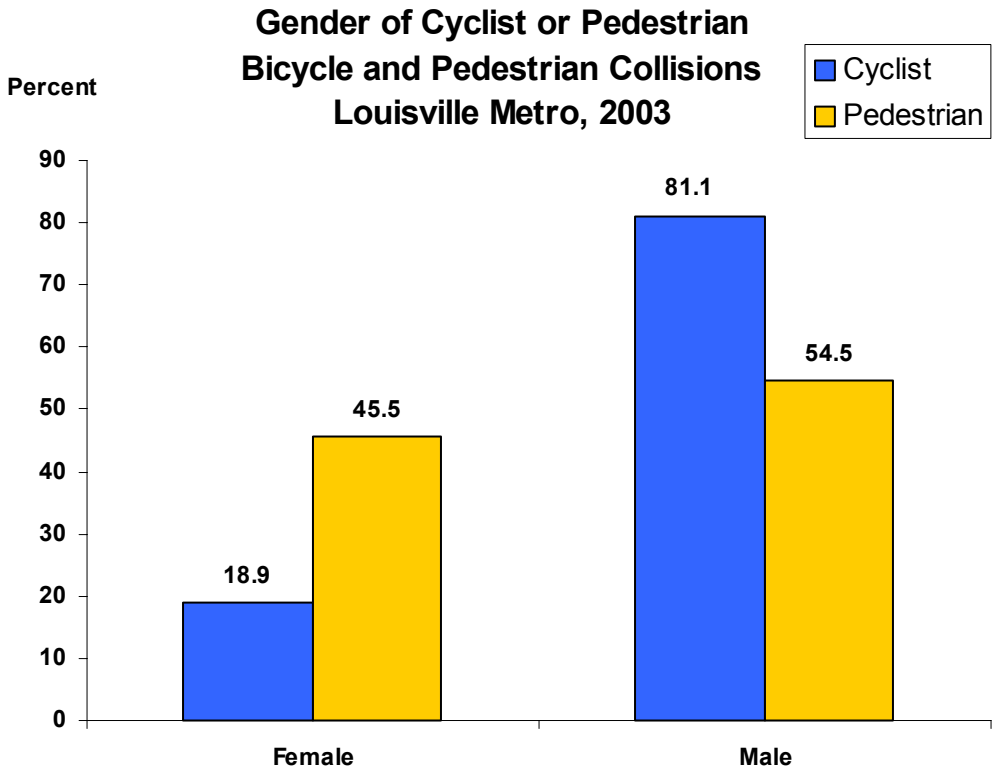

Time of Day
Bicycle and Pedestrian Collisions
Louisville Metro, 2003
Bicycle
Pedestrian
Percent
60
50
40
30
20
10
0
5.9
9.6
4.7
10.5
12.9
19.1
55.3
42
21.2
18.8
11 PM to 5 AM
5 AM to 9 AM
9 AM to 2 PM
2 PM to 7 PM
7 PM to 11 PM

For pedestrian collisions, the most common location was a non-intersection, roadway location (49%) with thirty-six percent (36%) occurring at an intersection location (14% are non-roadway locations and in 1% the location was unknown). Thus, almost half of the pedestrian collisions occur when the pedestrian is in the roadway, but not at an intersection. The location for bicycle collisions is more evenly split between intersection (47%) and non-intersection (44%) roadway locations (9% are non-roadway locations).

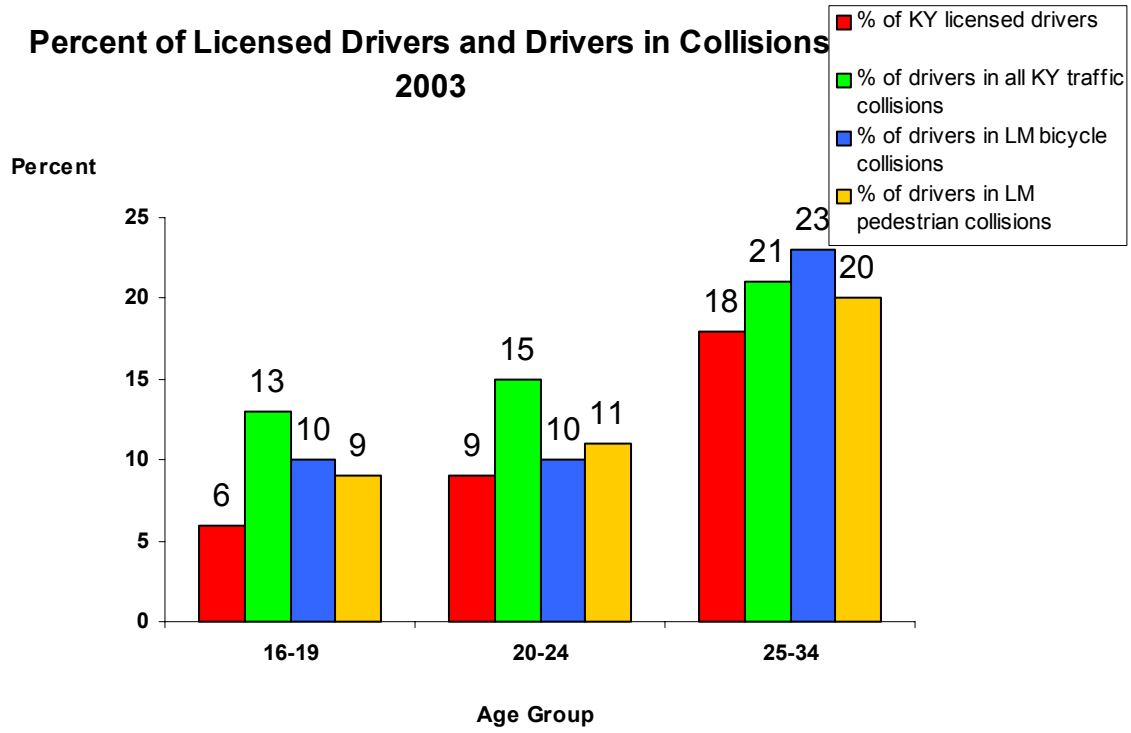


Males are more likely to be involved in these collisions. Sixty percent of the drivers involved in bicycle and pedestrian collisions were males (62% in pedestrian collisions and 56% in bicycle collisions). The bicyclists involved in the collisions were predominantly male (81%) and males were slightly more likely than females to be the pedestrians in pedestrian collisions (56%).

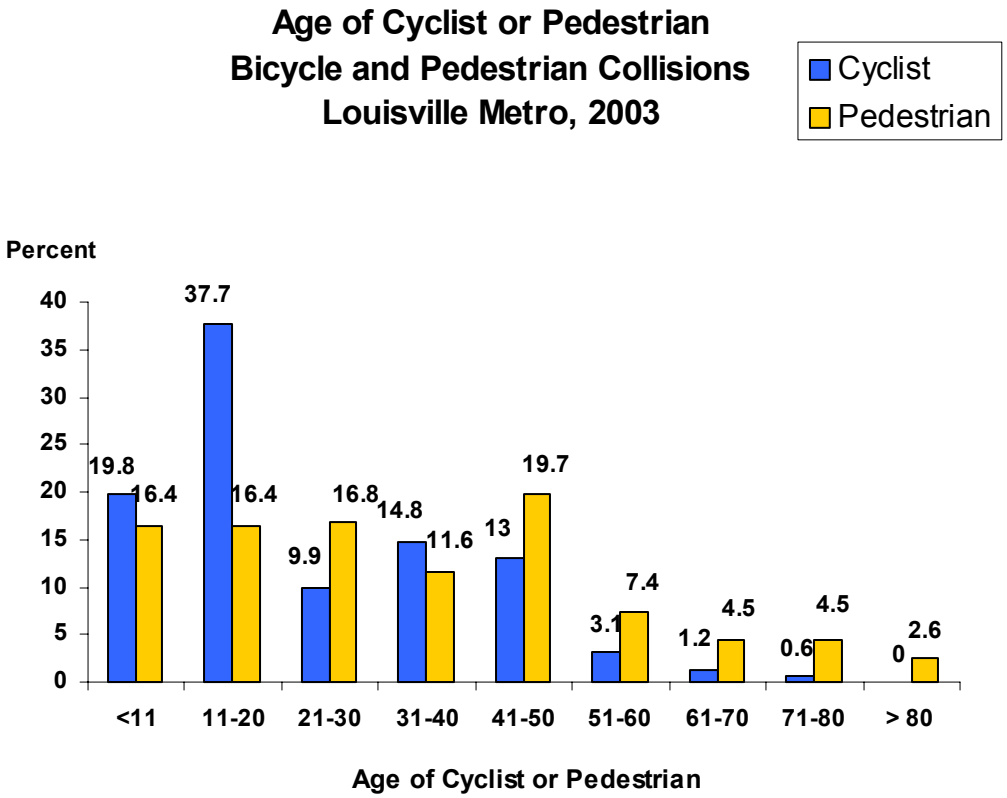

Gender of Driver
Bicycle and Pedestrian Collisions
Louisville Metro, 2003
Percent
Bicycle
Pedestrian
70
60
50
40
30
20
10
0
43.9
37.6
56.1
62.4
Female
Male


Gender of Cyclist or Pedestrian
Bicycle and Pedestrian Collisions
Louisville Metro, 2003
Percent
Cyclist
Pedestrian
90
80
70
60
50
40
30
20
10
0
18.9
45.5
81.1
54.5
Female
Male

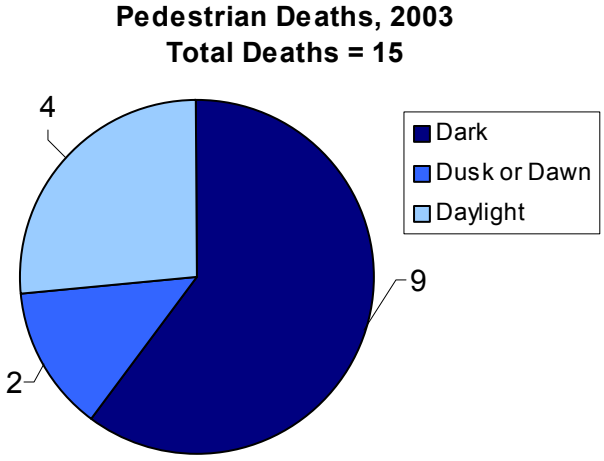
Based on their percentage of the licensed drivers in the state of Kentucky, motor vehicle operators who are ages 16 to 34 years are over-represented as the drivers in all Kentucky collisions.[8] They are also over-represented in the bicycle and pedestrian collisions in Louisville Metro. The older age groups are under-represented as the drivers in all of these collisions.



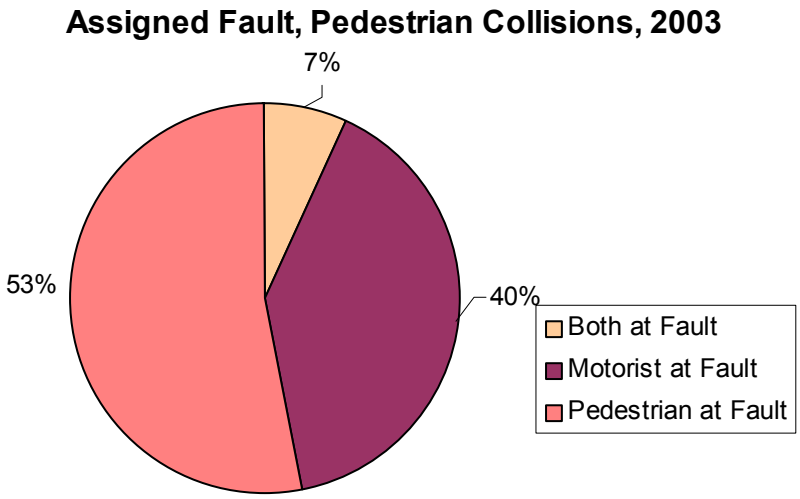
Over half of the cyclists involved in these collisions were twenty years of age or younger while 33% of the pedestrians were twenty years or younger. Residents who are under eleven years of age represent 15% of the Louisville Metro population according to 2000 census data. Residents 11 to 20 years of age make up 13% of the population. Both pedestrians and bicyclists ages twenty years and younger are over-represented in these collisions compared to their proportion in the Louisville Metro population, especially for residents ages 11 to 20 in bicycle collisions.



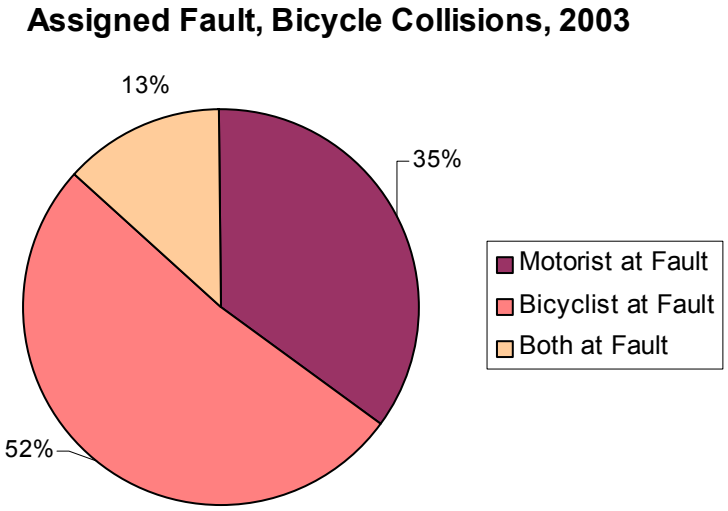
Of the fifteen pedestrian deaths in 2003, nine (or 60%) resulted from collisions during hours of darkness. Eleven of the deaths occurred when it was dusk, dawn or dark, which is over 70% of the collisions that resulted in the death of the pedestrian. Additional analysis revealed a positive and significant ($p < 0.05$) relationship between the degree of darkness and the severity of injury for pedestrian in these collisions. The positive relationship means that the darker it is outside, the more severe the injury is to a pedestrian who is struck by a motor vehicle. The fact that it is a significant relationship means that this relationship is not due to coincidence or chance.



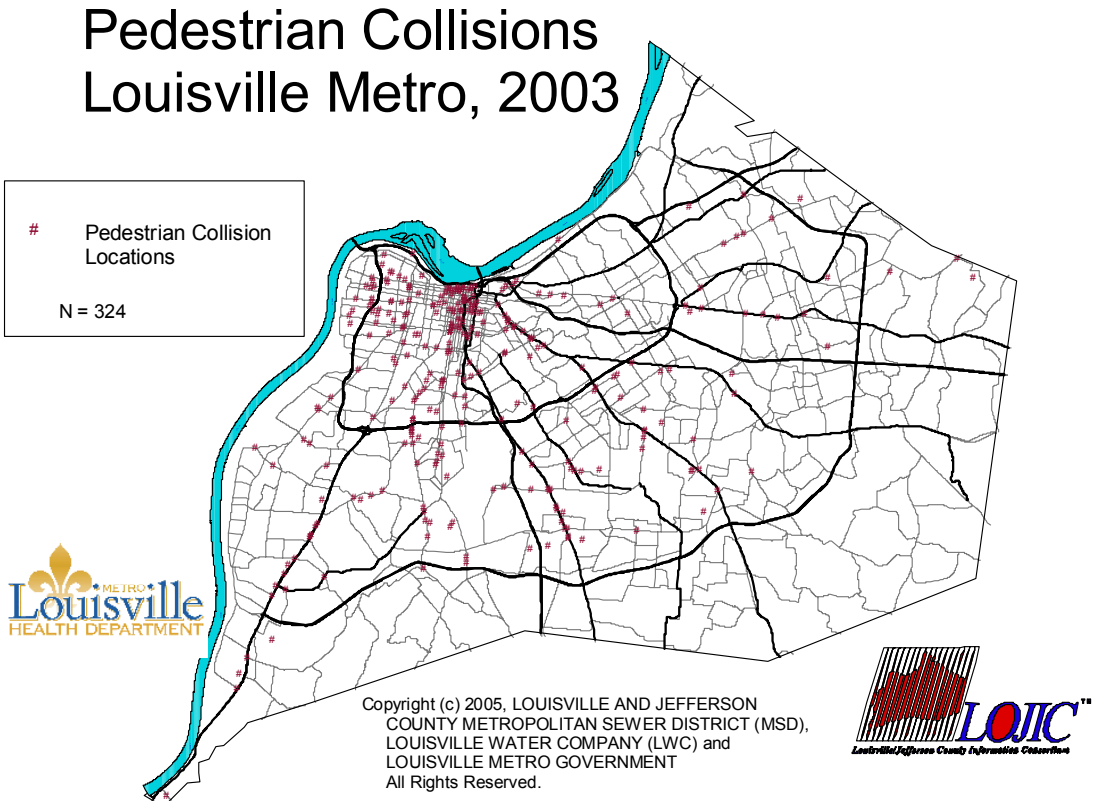
In the pedestrian collisions where fault could be determined, the pedestrian was assigned exclusive fault for the collision in fifty-three percent while the motorist was assigned exclusive fault in forty percent of the collisions. Both the pedestrian and the motorist were found to be at fault in seven percent of the collisions. In the fifteen fatal pedestrian collisions, the pedestrian was at fault in seven collisions, the driver was at fault in four collisions, and both were at fault in one collision. In the remaining three fatal collisions, fault could not be determined.



In fifty-two percent of the bicycle collisions the cyclist was determined to be primarily at fault. In thirty-five percent of the collisions the motorist was determined to be primarily at fault. In thirteen percent both were at fault.

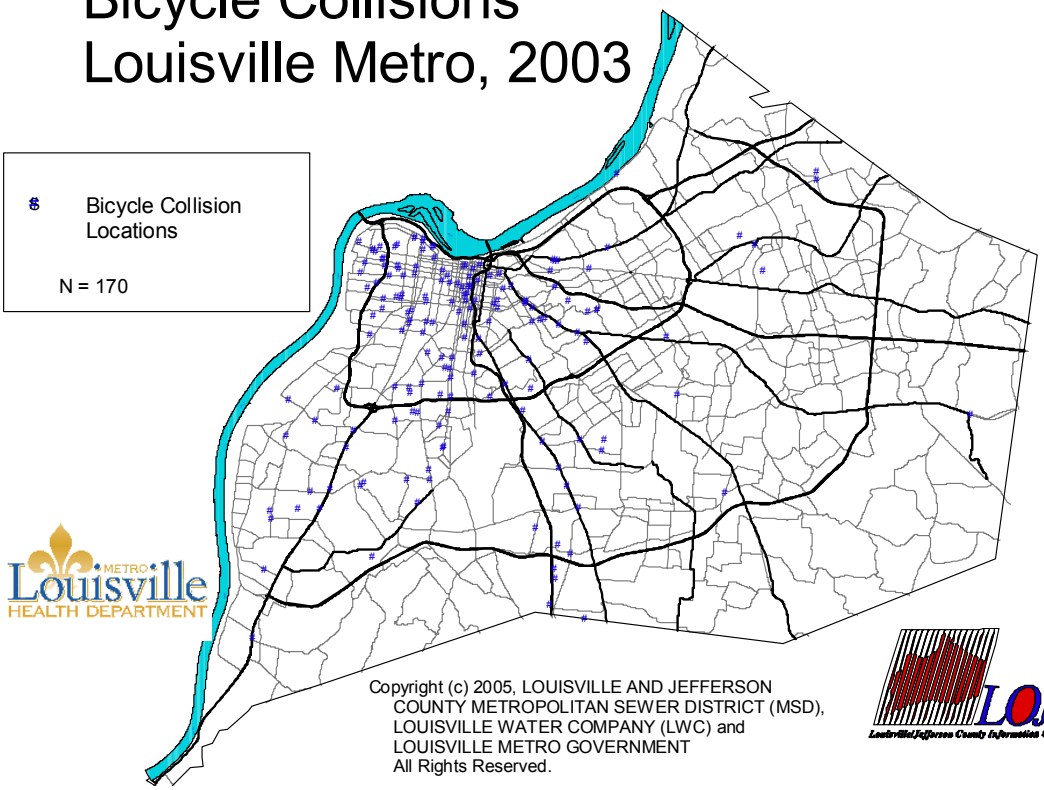


The location of each pedestrian collision is mapped below. The collisions are more concentrated in downtown and west Louisville and on major thoroughfares in the outlying areas.



The location of each bicycle collision is mapped below. The bicycle collisions also are more concentrated in downtown and west Louisville followed by major thoroughfares in the outlying areas.

Bicycle Collisions
Louisville Metro, 2003



Intentional Injury: Homicide

What is it?

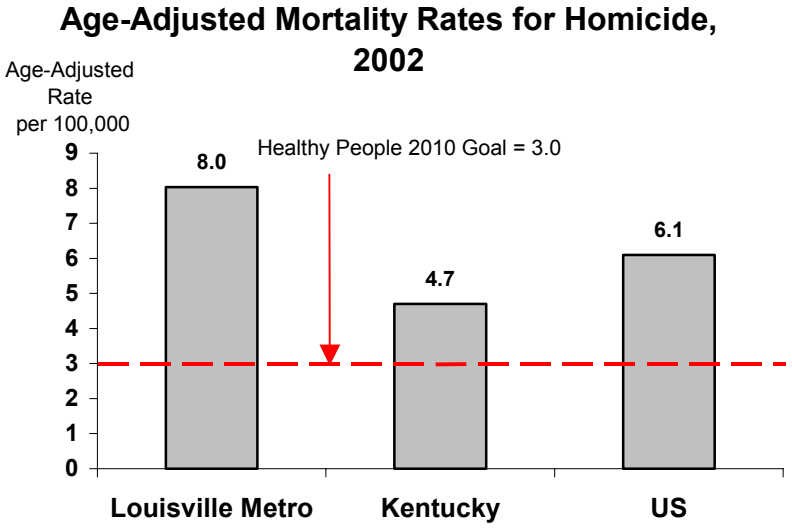
Homicide is the intentional infliction of injury to another person that results in death. For purposes of this document, homicide does not include deaths that result from legal intervention or war operations.

Why is it important?

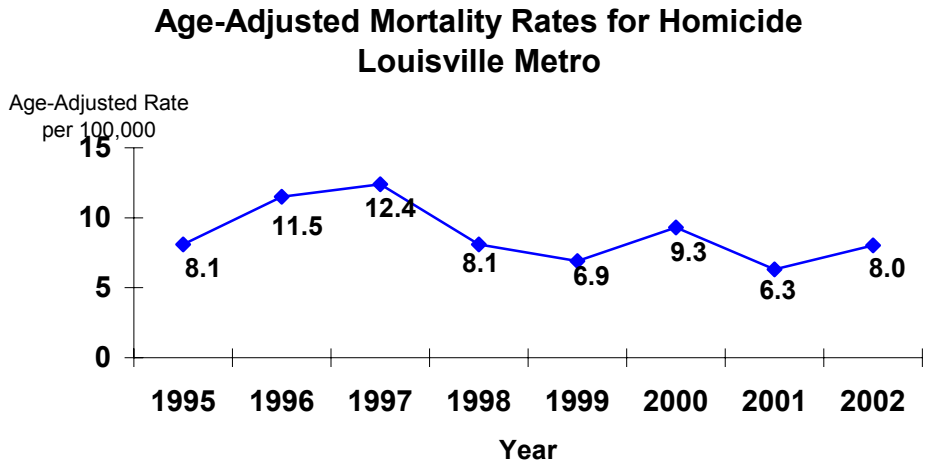
In 2002, there were 17,638 homicides in the United States. The age adjusted mortality rate from homicide in the nation for 2002 was 6.1 deaths per 100,000 population.[2] Homicide is the second leading cause of death for all persons aged 15-34 years.[9] Mortality from homicide is particularly high among African Americans. It is the nineteenth leading cause of death for all persons in the nation while it is the sixth leading cause of death for African Americans. Homicide is the leading cause of death for African Americans 15 to 34 years of age. [10]

What is Louisville Metro's status?

The age-adjusted mortality rate from homicide in Louisville Metro for 2002 was 8.0 deaths per 100,000 population, higher than both the state rate of 4.7 [2] and the national rate of 6.1.[2] The Louisville Metro rate was more than double the national *Healthy People 2010* goal.[3]

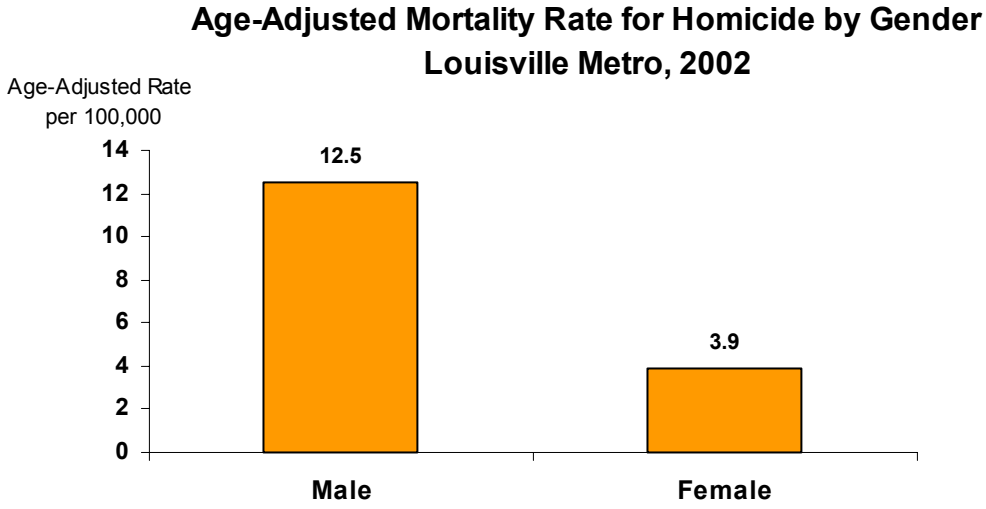


Over an eight-year period of time (1995-2002) homicide death rates had ranged from 6.9 to 12.4 per 100,000 population. While the mortality rate from homicide in Louisville Metro during 2002 was higher than in 2001, the 2002 the rate was 8.0, which is about average for the eight-year period.

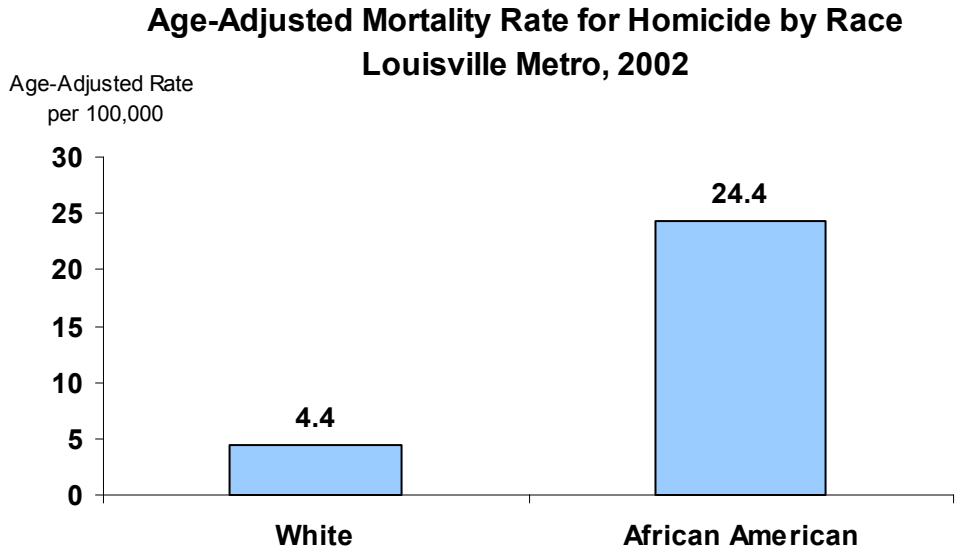


In 2002, the Louisville Metro age-specific mortality rates from homicide were highest among residents who were in the age groups of 15 to 24 years of age and 25 to34 years.

In 2002, the Louisville Metro age-adjusted homicide mortality rate for males was more than three times that for females. The rate for males was 12.9 compared to 3.9 for females.



Of the 55 homicide deaths that occurred in Louisville Metro during 2002, 56.4% were among non-Latino African Americans, 36.4% were among non-Latino whites and 7.3% were among Latinos. In 2002, the Louisville Metro age-adjusted mortality rate from homicide for African Americans was nearly six times that of whites.



What are we doing?

Community efforts toward preventing morbidity and mortality from injury in Louisville Metro are spread across a number of public and private entities, including public health, law enforcement, public safety, and regulatory agencies. The Louisville Metro Health Department has a number of programs that are designed to impact morbidity and mortality from injury.

The Health Emergency Action Team (HEAT), a unit within the Department's Division of Environmental Health and Protection, is specially trained and equipped to respond to the release of chemical, biological, radiological and other hazardous materials. HEAT environmentalists serve as members of Louisville Metro's multi-agency Haz-Mat team. During an incident, HEAT members assist the incident commander in mitigating the release. Once the release has been mitigated, the Health Department assumes incident command and supervises the remediation of the spill to ensure that it is completed safely and effectively. HEAT members also investigate complaints of improper storage, handling, or disposal of hazardous substances and respond to complaints of potentially toxic indoor air quality.

Louisville Metro Health Department monitors the safety and water quality of public swimming pools and other bathing facilities throughout Louisville Metro. Each public pool is inspected at least twice each year for compliance with safety regulations and water quality. They also test and certify all lifeguards and pool attendants. This certification requires documentation of CPR and first aid training as well as successful completion of a water safety skills examination.

The Health Department also conducts community health education programs that emphasize injury prevention. Examples include water and boating safety education for school children and a community-wide Halloween safety awareness program featuring "Sadie the Safety Witch."

To protect infants and children while riding in motor vehicles, the Health Department provides child safety seats. Parents are taught how to properly install the seat as well as how to properly secure the child in the seat.

The Louisville Metro Health Department is a member of the Louisville and Jefferson County SAFE KIDS Coalition, a program of Kosair Children's Hospital. The Coalition is comprised of public, private and voluntary organizations and works to prevent unintentional injuries (the leading cause of death and disability to children from birth to 17 years of age) and to reduce the severity of such injuries if they occur. The mechanisms of injury that have been targeted are falls, drowning, burns, poisoning, choking, pedestrian and bicycle-related injuries, and injuries to motor vehicle occupants. This Coalition, in conjunction with the National SAFE KIDS Campaign, conducts public outreach and awareness campaigns, distributes safety devices, and conducts hands-on educational activities for children and their families.

The Louisville Metro Department of Planning and Design Services has a Bicycle and Pedestrian Coordinator who oversees a Bicycle and Pedestrian Program. The program began in 2000 and promotes education, engineering changes, and enforcement of laws related to bicycle and pedestrian travel and safety. In February of 2005 they organized the Mayor's Louisville Bicycle Summit. The results of the Summit included proposed goals for supporting bicycling in the Louisville Metro community. From these goals and other input, the Bicycle and Pedestrian Coordinator is developing a strategic plan for improving bicycling and walking in Louisville Metro.

In addition, the Mayor's Healthy Hometown Movement promotes the use of bicycling and walking as ways to keep healthy and avoid being overweight or obese. This Movement increases awareness of behavioral health risk factors and encourages healthy eating and physical activity.

What else do we need to do?

The deaths and injuries reported in this section are the result of unintentional or accidental harm or intentional harm in the case of homicide. Because all of these deaths and injuries are avoidable, we need to work harder to prevent the conditions that lead to these deaths. All of the related prevention efforts in the community are making a difference, but we need to work harder to implement education, enforcement, and engineering opportunities and knowledge to continue to decrease the injuries and deaths due to unintentional accidents and intentional assaults and homicides.

The Federal Highway Administration has a new guide to address pedestrian safety.[11] This guide includes crash typing the collisions and identification of countermeasures to prevent that type of crash. The countermeasures offered include possibilities for engineering changes, education, encouragement and enforcement. A similar guide for bicycle collisions is under development. These resources should be used to investigate and guide the implementation of counter measures for the types of crashes that occur in Louisville Metro.

The Louisville Metro Health Department is currently facilitating a community strategic planning process to look at all the health related issues in our community. The outcome will be an identification of the priority issues and a strategic plan for addressing these issues. This process began in 2004 and will have a strategic plan ready for implementation in 2006. After it is implemented, it will be evaluated and adjusted to on a regular basis to try to improve the health of Louisville Metro residents.

References

1. Centers for Disease Control and Prevention. *Injury Factbook 2001-2002*. <http://www.cdc.gov/ncipc/fact_book/03_Message_NCIPC.htm>. 28 June 2004

2. Centers for Disease Control and Prevention. Deaths: Leading Causes for 2002. *National Vital Statistics Reports,* 53(17): 1-92. 2005.

3. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health*. 2 vols. Washington, DC: Government Printing Office, 2000.

4. Kentucky Cabinet for Health Services. *2000 Kentucky Death Statistics Tables.* <http://chs.ky.gov/publichealth/2000_KY%20Death%20Statistics.htm>. 28 June 2004

5. Kentucky Cabinet for Health Services. *1999 Kentucky Death Statistics Tables.* <http://chs.ky.gov/publichealth/1999_KY%20Death%20Statistics.htm>. 28 June 2004

6. Kentucky Cabinet for Health Services. *1998 Vital Statistics Reports-Selected Tables* <http://chs.ky.gov/publichealth/data-warehouse.htm#Vital%20Statistics>. 28 June 2004

7. Centers for Disease Control and Prevention. *Community-based interventions to reduce motor vehicle-related Injuries: evidence of effectiveness from systematic reviews.* <http://www.cdc.gov/ncipc/duip/mvsafety.htm>. 30 June 2004

8. *Kentucky Traffic Accident Facts 2003 Report*. Kentucky Transportation Center, College of Engineering, University of Kentucky, 2000. (Available from Kentucky State Police, Records Branch, 1250 Louisville Road, Frankfort, Kentucky 40601).

9. Centers for Disease Control and Prevention. *Violence in the United States.* <http://www.cdc.gov/ncipc/dvp/dvp.htm>. 2 July 2004.

10. Centers for Disease Control and Prevention. Deaths: Leading Causes for 2002. *National Vital Statistics Reports,* 53(17): 1-92. 2005.

11. *PEDSAFE: Pedestrian Safety Guide and Countermeasures Selection System*. U.S. Department of Transportation, Federal Highway Administration, 2004. Report Number FHWA-SA-04-003. Also available at: http://www.walkinginfo.org/pedsafe/

Lead Exposure

What is it?

Lead is a naturally occurring metal found in our environment. Much of it comes from industrial emissions, auto exhaust, burning fossil fuels, mining, manufacturing automotive batteries, paint, enamel, ink, glass, rubber, ceramics, and chemicals.[1] Older pipes, brass faucets or pipes with soldered fittings are also common sources of lead. Many imported products, such as, canned goods, toys and small jewelries can contain lead in high enough concentrations to pose a risk to young children.[1]

Lead has been extensively used over the years in gasoline to avoid knocking of auto-engines.[2] Lead-based paints were widely used in painting houses, public buildings, and ceramic tableware.[1] Leaded paint continues to be used for painting steel bridges, various marine fixtures and storage tanks.[5]

Lead has been identified and documented as a harmful and potent environmental pollutant.[4] The Secretary of the Department of Health and Human Services identified lead as the "number one environmental threat to the health of children in the United States" in late 1991.[4] Because of the adverse health effects and danger of lead poisoning, the use of lead has been essentially discontinued in most consumer products in the United States. Banning lead from gasoline has significantly reduced the amount of lead released into the environment.[4] Regulations forbidding the use of lead in paint and lead in plumbing solder have also contributed to this reduction.[4] Older housing units built before 1978 persist as the primary source of lead exposure for young children. Lead in the form of paint chips, contaminated soil and lead-laden dust continue to release lead into the environment. .

Common Environmental Sources of Lead:

A child can be exposed to lead from many potential sources.[5] Most common sources of lead are:

- **House Paint** (Both Interior and Exterior) – Because of its long-lasting properties, lead was a common component of house paints until World War II. From that time until 1978, lead in paint continued to be reduced until it was outlawed in 1978. Any lead-based paint applied before this date remains a part of many homes today. As the paint deteriorates or as homes undergo remodeling, lead-paint in the form of chips and dust are introduced into the home environment. Children are exposed to lead by mouthing objects contaminated with lead dust, by chewing on surfaces coated with lead paint such as window sills, or by eating paint flakes and chips.[5]

- **Soil and Dust** – Deteriorated lead-based paint will remain in the environment as a fine powder and contaminate house dust and soil in yards and playgrounds. Other sources of lead contamination include industrial sources and leaded gasoline. Lead particles from the exhaust of cars using leaded gasoline persist in the environment today and contribute to the contamination of soil and dust.[5]
- **Drinking Water** – Leaded pipes, lead solder and fixtures used in household plumbing are the major sources of lead in drinking water.[5] Although lead free products are now used, the presence of lead solders and lead pipes remain a legacy for many homes. The Environmental Protection Agency (EPA) estimates drinking water is the source of about 20 percent of Americans' lead exposure. [3] As a result, EPA requires public water systems to conduct on-going testing to assure a lead-free water supply.

- **Industrial and Occupational Exposure** – Adults working in battery manufacturing industries, radiator repair shops, construction and building renovation, steel and bridge manufacturing industries may be exposed to lead. Workers, when not following adequate safety procedures, can bring lead dust home on clothing and shoes and in personal vehicles. This contamination can create an exposure for children.[5]

- **Food** – Food can be a source of lead exposure. Canned food, more common in imported foods, can be contaminated with lead from containers still using lead solders and processing equipments. To varying degrees, vegetables grown in soils with lead contamination can absorb the lead and bring it into the plant itself.

- **Other sources of lead** – Many household items, such as imported ceramic pottery and stoneware, leaded crystal and china, fishing weights, bullets, plastic mini-blinds, toys, small jewelries, and imported crayons, may contain lead. Several traditional and folk remedies and cosmetics, brought from other countries, also may contain lead.[5]

Why it is important?

Lead poisoning is the most preventable environmental health threat affecting the development of infant and childhood psychological and physical health in the United States. In 2000, the Centers for Disease Control and Prevention estimated that in the United States as many as 434,000 children aged 1 to 5 years, or about 2.2%, had elevated blood lead levels (BLL).[6]

National statistics illustrate that lead poisoning affects children living in poverty and also minority children who reside in housing units and apartments built before 1950.

In the body lead can affect all the normal physiological systems such as hematological (blood), renal (kidney), neuromuscular, gastrointestinal, and reproductive systems. Lead particularly interferes with the nervous system and brain of the developing fetus and children through 5 years of age and can cause adverse health effects, learning difficulties and behavioral problems that can last a life-time.[8]

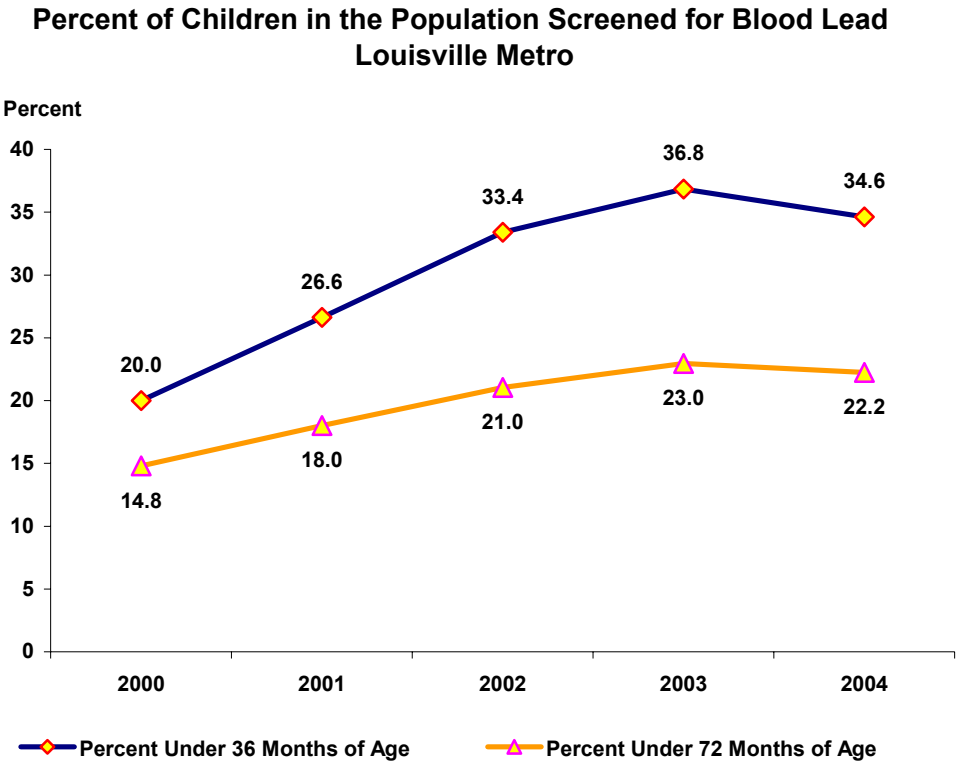
The majority of lead-poisoned children do not exhibit any symptoms. Most of the lead absorbed by blood cells and soft tissues can remain in the body from 25 days to 28 years.[8] The effects of lead poisoning may not be apparent until years after the exposure, when the child goes to school and begins having academic or behavioral problems.

Although rare in the United States, a very high level of lead toxicity can result in coma, convulsions, brain damage and even death. The symptoms associated with high lead levels include severe abdominal pain, vomiting, diarrhea with extensive fluid losses, leading to circulatory failure.[8] These are symptoms of other diseases and illness too.

At moderate toxicity levels, lead can cause nerve and kidney damage associated with muscle and joint pain and weakness.[8] Low levels exposure to lead can cause fatigue, loss of interest in play, mood disorder, irritability, aggressive behavior, and sleep disturbance. The gastrointestinal symptoms from mild lead toxicity include constipation and abdominal pain.[8] Lead poisoning can lead to reduced growth, decreased intelligence with learning disabilities, behavior problems like hyperirritability, poor memory, sluggishness, and decreased hearing acuity.

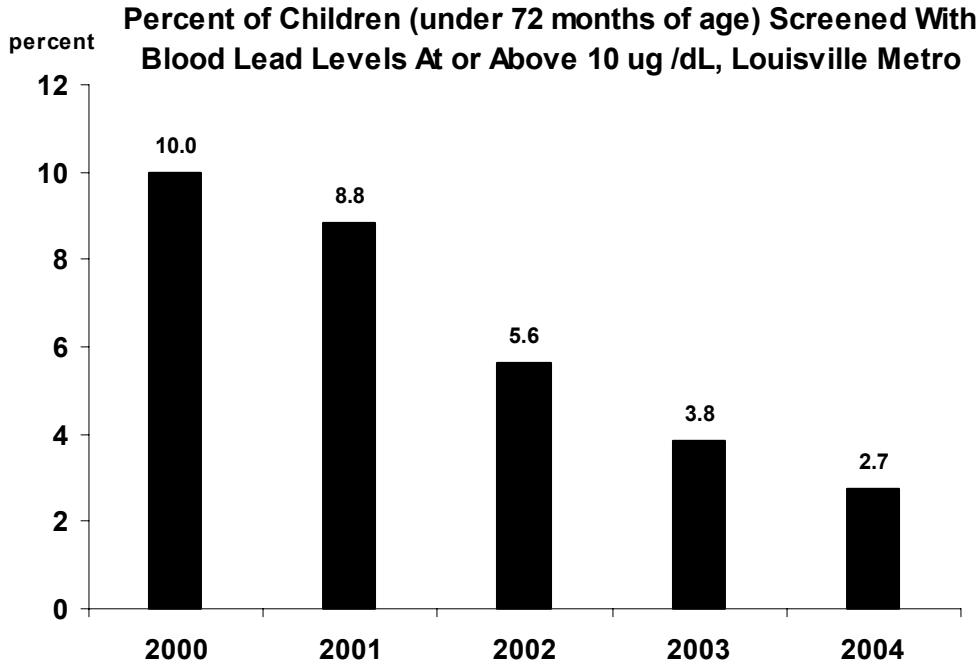
Lead crosses the placental barrier and passes from mother to fetus during pregnancy and through breast milk during lactation. The source of maternal lead can be current environmental exposure, such as remodeling of housing units during pregnancy, or from lead released from her bones, if she had a significant exposure as a child. Sufficient and adequate intake of calcium and B vitamins during both pregnancy and lactation considerably reduce the concentration of lead released from maternal bone deposits and available for transfer to the fetus or infant.

What is Louisville Metro's Status?



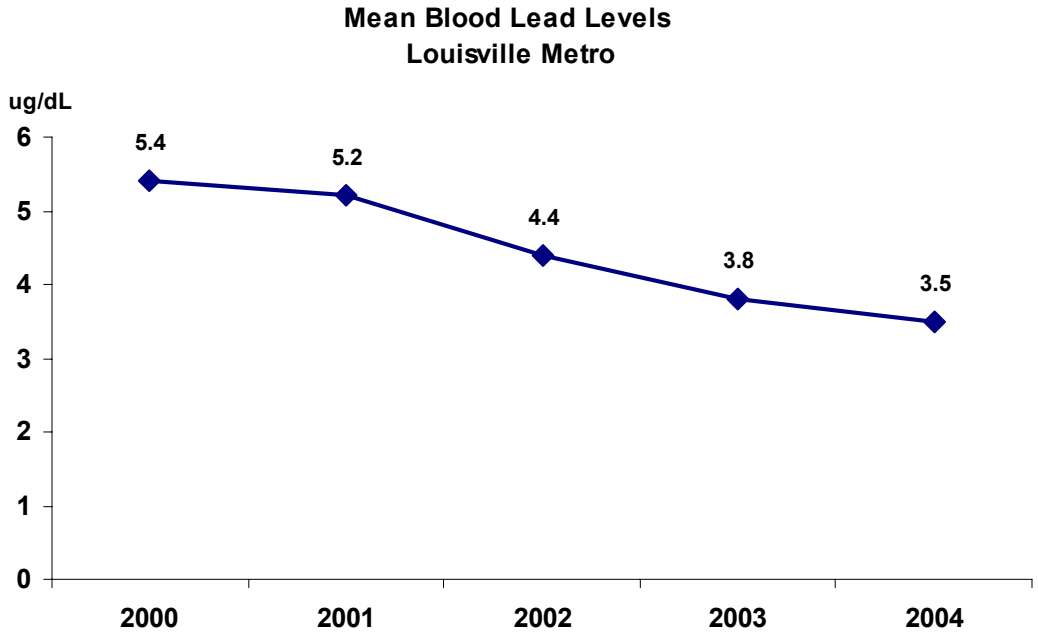
In 1991, the Center for Disease Control and Prevention (CDC) adopted guidelines (*Preventing Lead Poisoning in Young Children*) recommending universal screening for blood lead levels for children 9 to 72 months of age except in populations where there are sufficient data to make an inference that children would not be at risk of lead exposure.[10] In 1993, American Academy of Pediatrics (AAP) revised their guidelines (*Lead Poisoning: from Screening to Primary Prevention*) by supporting most of the 1991 CDC recommendations and precisely recommended "blood lead screening as part of routine health supervision for children at about 9 through 12 months of age and if possible, again at about 24 months of age." [10]

The chart above shows in Louisville Metro the percent of children screened with a blood lead test. This chart is broken down into two age groups. The first group includes children less than 36 months, for which annual screening is recommended at 12 months and 24 months. The second group is inclusive of all children less than 72 months of age. Screening is recommended for children 36-72 months when the child has never been screened or the child has risk factors. The blood lead screening rate shows an increasing trend for both age groups from 2000 to 2003 and slightly declined in 2004. In the less than 36 months age group the rate has increased from 20.0 percent in 2000 to 36.8 percent in 2003 and slightly declined to 34.6 in 2004. In the less than 72 months age group the rate was14.8 percent in 2000, 23.0 percent in 2003, and 22.2 percent in 2004. Since 2001, the LMHD CLPPP has received screening data from other laboratories especially from University of Louisville (UofL), which has contributed to the increasing the screening rates in those years.



The percentage of children screened with an elevated blood lead levels (EBLL) at or above 10 μg/dL decreased in the past five years in Louisville Metro, from 10.0 percent in 2000 to 2.7 percent in 2004. The decline is in part due to the inclusion of private laboratory screening results with the LMHD laboratory results, which began in 2001. As a result of this inclusion, we have a better assessment of our community in terms of the number of children with blood lead levels at or above 10 μg/dL.

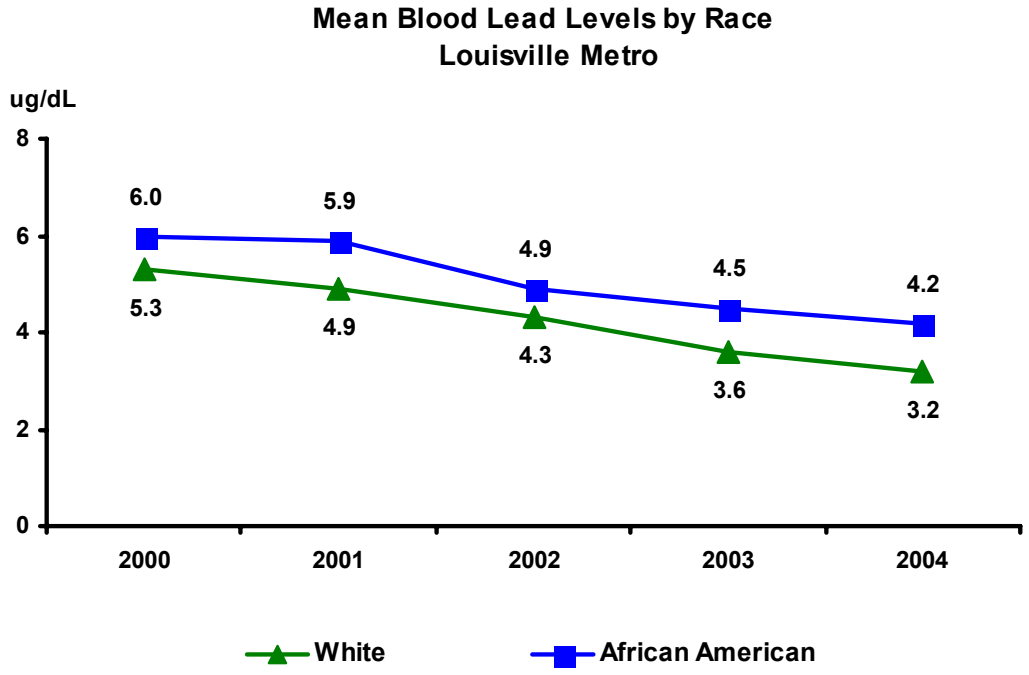
Nationally we also observe a continued decline in the number of children with elevated blood lead levels. For comparison, in 2003 an article published by CDC in Morbidity and Mortality Weekly Report (MMWR) described the results of a comprehensive cross-sectional survey, National Health and Nutrition Examination Survey (NHANES), conducted from 1999-2000. They estimated that 434,000, or 2.2 percent, of the children aged 1 to 5 years in the United States had EBLLs greater than or equal to 10 μg/dL.[6]



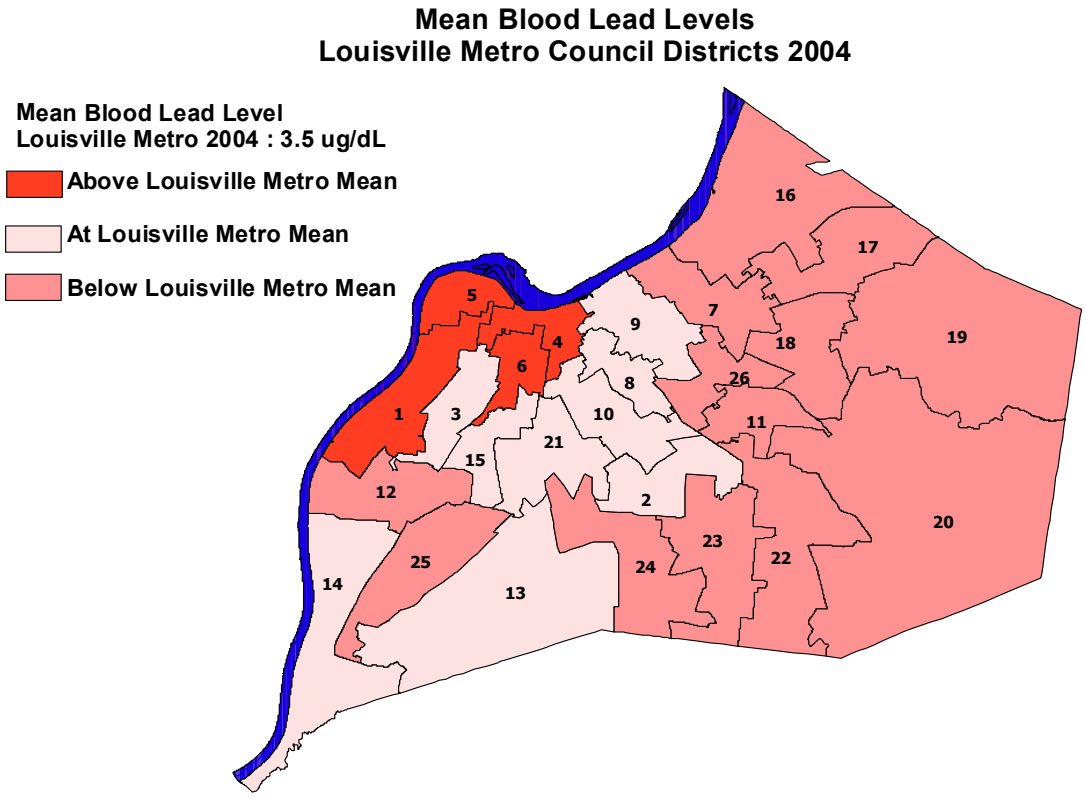
As with the decline in the number of children identified with elevated blood lead levels, the mean blood lead levels for all screened children under 72 months in Louisville Metro has also declined. In 2000 the mean was 5.4 µg/dL and in 2004 it was 3.5 µg/dL.

(The mean or average blood lead level is computed by the sum of all the blood lead levels divided by the total number of children screened.)

This decline is consistent with what has been observed across the country in three NHANES studies. Three National Health and Nutrition Examination Surveys (NHANES: 1976-1980, 1988- 1991 and 1991-1994) conducted by CDC, estimated a decrease in the overall mean BLL for the general US population from 12.8 to 2.8 and then to 2.3 µg/dL.[10] Lead-free gasoline, lead-free paint, reduced lead in water and unleaded food cans are the major factors attributed to these declines in mean blood lead levels.[10]

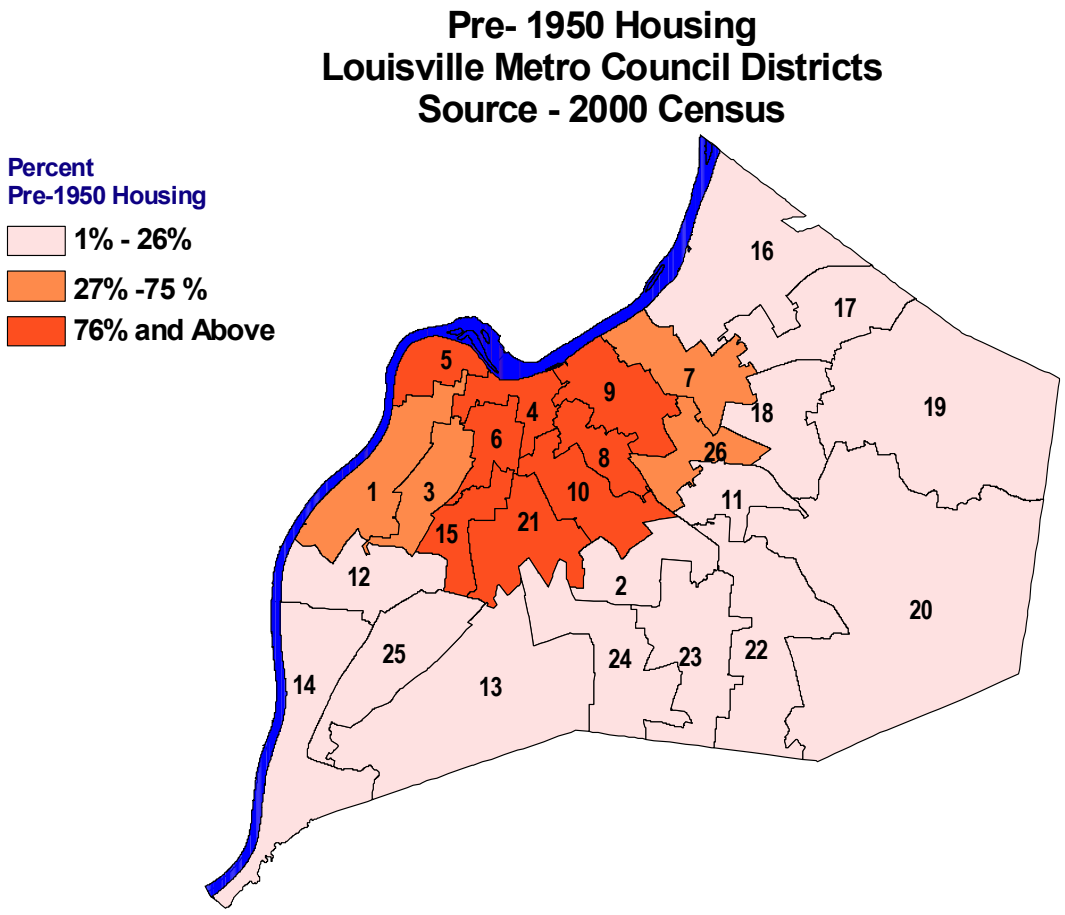


In Louisville Metro, as observed across the nation, the mean blood lead level for African-Americans is higher than that of Whites. The chart above shows the mean blood lead levels for both African-Americans and Whites in Louisville Metro from 2000 to 2004. In 2000 the mean BLL was 6.0 µg/dL for African Americans as opposed to 5.3 µg/dL for Whites. Both races have seen a decline in the mean blood lead level and during 2004 the mean was 4.2 µg/dL for African Americans and 3.2 µg/dL for the Whites. The overall mean Blood Lead Level for Louisville is 3.5 µg/dL.



This map of Louisville Metro council districts depicts the distribution of mean blood lead levels for calendar year 2004. On this map, the council districts with the darkest shading (four council districts) are characterized with a mean BLL above the overall mean BLL of 3.5 µg/dL. The council districts with the lightest shading (nine) are characterized with a mean BLL at 3.5 µg/dL and the council districts with medium shading (thirteen) are characterized with a mean BLL below Louisville Metro's mean. Please note all mean BLLs in Louisville Metro are above the national Mean BLL of 2.2 µg/dL.

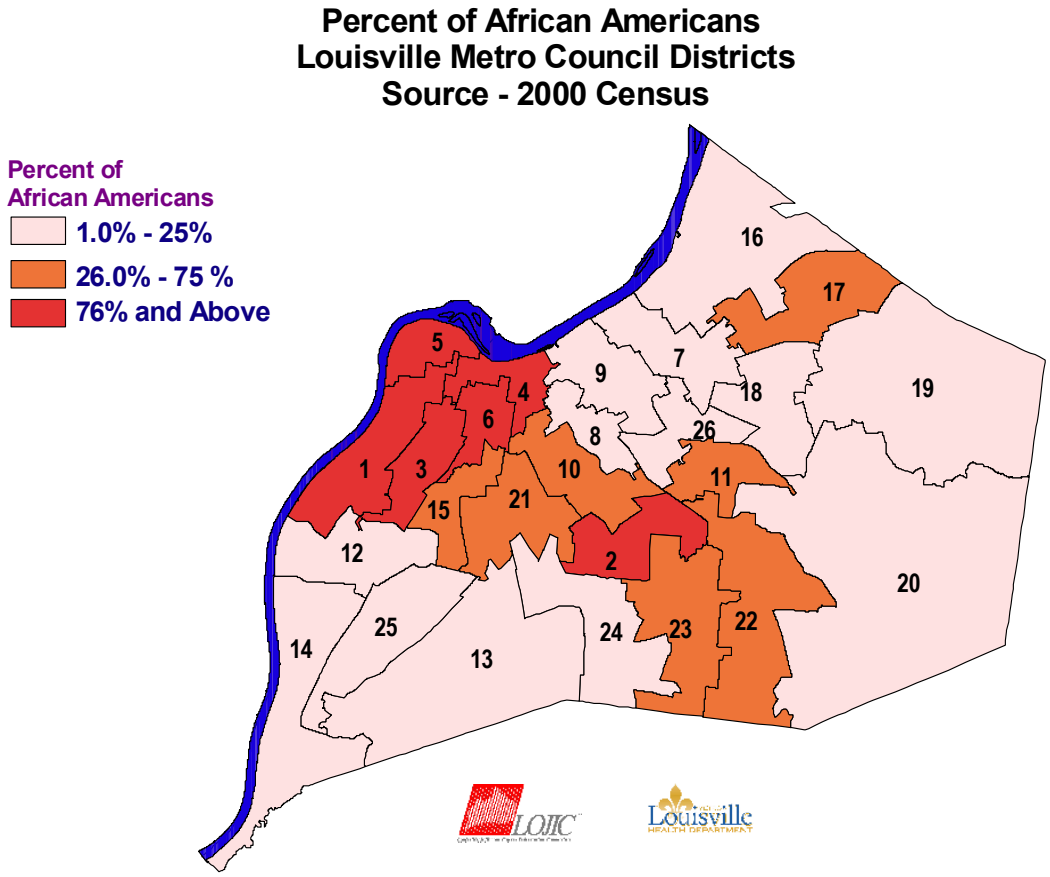
Lead poisoning is a result of ingestion or inhalation of lead. For young children, this exposure to lead is most frequently from dust and paint chips from old lead painted surfaces, most commonly where they live and play. Therefore generally children, who reside in older housing, are at greater risk. The next map shows the year of construction of housing units in the Louisville Metro area. As with the previous map, it is depicted by council districts for comparison with Mean Blood Lead data.



The map above of Louisville Metro council districts illustrates the percentage of existing housing units built before 1950, when paint had the highest lead content. When the percentage of housing units built before 1950 is 27% or higher, the neighborhoods are considered to be at higher risk for lead poisoning. This map has housing units broken down into three categories. The dark shaded council districts indicate districts with a 76 percent or greater of pre-1950 housing units, the medium shaded council districts represent 27 to 75 percent of pre-1950 housing units and the lightest shaded council districts represent 1 to 26 percent of pre-1950 housing units.

However, the council districts where there are 1% to 26% of housing units build before 1950, could have some neighborhoods or areas with a higher percent, where children are at risk of lead poisoning. Age and condition of housing units, not the geographic location, are the most important predictors for the presence of hazards related to lead-based paint.

Center for Disease Control and Prevention (CDC) guidelines endorse universal screening of children 1 and 2 years olds in areas with 27% or more of housing units built before 1950 due to the higher risk for blood lead poisoning.



This map illustrates the density of African Americans living in Louisville Metro by council district. The council districts with darkest shading are districts that have more than 76% African Americans. The medium shaded council districts have 26 to 75 percent African American residents and the lightest shaded council districts have populations with one to twenty-five percent African Americans.

What are we doing?

The Louisville Metro Health Department's (LMHD) **Childhood Lead Poisoning Prevention Program (CLPPP)** has been providing blood lead screening, case management, health

education and awareness, and environmental intervention in our community to reduce exposure to lead and create a lead safe Louisville since 1968.

CLPPP has partnered with several community agencies in addressing the lead problem. Through the Lead Safe Neighborhood project, CLPPP works with the Department of Housing and Urban Development (HUD) in remediation of houses identified to have lead hazards through our risk assessment and lead inspections. CLPPP conducted an outreach campaign in conjunction with the Louisville Lead-Safe Coalition and HUD to observe National Lead Poisoning Prevention Awareness week in October last year. CLPPP also works with the Louisville Metro Department of Inspections, Permits, and Licenses and the Louisville Housing Authority in this effort to reduce lead exposure in Louisville Metro.

As part of CLPPP's emphasis on primary prevention, the year round health education activities not only highlight universal precautions to deal with lead-based paint, but also educate our citizens about non-paint lead sources like industrial and occupation exposures, consumer goods, hobbies, and home remedies.

CLPPP has expanded lead safety education to expectant and new parents. They provide these parents with information on lead poisoning, control of lead hazards, local lead safety resources and community groups, screening recommendations, and cleaning equipment.

To get a broader picture of blood lead screening in Louisville Metro, CLPPP communicates with University of Louisville (U of L), Department of Pharmacology and Toxicology, regarding data and surveillance information. The data presented in this report for Louisville Metro childhood blood lead screening status combine the data from CLPPP and U of L.

The Childhood Lead Poisoning Program also actively participates in the Kentucky Statewide Childhood Lead Poisoning Prevention Advisory Committee to implement a statewide childhood lead poisoning strategic elimination plan.

What else we need to do?

LMHD CLPPP developed a Childhood Lead Poisoning Elimination Plan similar to the goals of Healthy People 2010: to eliminate elevated blood lead levels (those greater than or equal to 10 μg/dL) in children by 2010.

It is essential to increase primary prevention activities to successfully eliminate childhood lead poisoning. To this end, LMHD CLPPP will address housing and non-housing sources of lead exposure in its outreach campaigns, involve and seek more support from a broader group of partners who care for children and the environment in which children live, and identify and address geographic, socio-economic, and cultural factors that increase the risk of exposure to lead. Legislation strengthening lead regulation will boost this effort.

CLPPP needs to reach out to providers not currently performing BLL testing and advise them to test and also provide them with information regarding the LMHD lab services as a resource for testing samples. A mandatory testing requirement of children at one year and at two years of age and the reporting of all lead test results to the state will help. The Spring Seminars focus on this endeavor.

CLPPP needs to increase its collaboration with agencies like Passport Health Plan to coordinate for outreach to Medicaid recipients and Medicaid providers in Louisville Metro targeting the highest concentration of Medicaid-eligible population.
LMHD CLPPP also will collaborate with the Kentucky State CLPPP to develop program management and evaluation reports, including tracking of the Medicaid population on a quarterly basis.

CLPPP also needs to work in the future to simplify the process of sharing housing data and blood lead testing information with its coalition partners, laboratories, State Health Department, and Centers for Disease Control and Prevention (CDC) to foster a united front in the work to reduce lead hazards, create lead safe work settings and practices, and eventually prevent lead poisoning in children. Other measures worth considering include the requirement to test older houses for lead before undertaking remediation of lead hazards, and requiring the use of lead-safe work practices when remodeling or repairing all housing, particularly those built before 1978, and not just when lead hazards are identified. Additionally, CLPPP needs to help identify funding streams for low-income families to undertake testing and remediation of lead hazards.

CLPPP is addressing the growing lead poisoning problem among Refugees in the Louisville Metro area. Working with representatives from organizations like Catholic Charities and Kentucky Refugee Ministries, the case management and health education team has screened children from this group and provided some families with follow-up services and educational materials.

References

1. Ohio State University Extension Fact Sheet, Community Development, 700 Ackerman Rd., Suite 235, Columbus, OH 43202-1578. http://ohioline.osu.edu/cd-fact/0193.html

2. Toxic Hazards - Lead Facts: *http://www.metrokc.gov/health/tsp/lead.htm#human, Public Health, Seattle and King County, 999 3 rd Avenue, Ste 1200, Seattle, WA 98104*

3. Childhood Lead Poisoning Prevention. http://www.thearc.org/faqs/leadqa.html. *The Arc, National Headquarters, 1010 Wayne Ave. Suite 650, Silver Spring, MD 20910*

4. Sources of Indoor Air Pollution – Lead (Pb). http://www.epa.gov/iaq/lead.html *U.S. Environmental Protection Agency*, Ariel Rios Building, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460. Friday, March 18th, 2005

5. Physician's Handbook on Childhood Lead Poisoning Prevention. http://www.health.state.ny.us/nysdoh/lead/handbook/phc2.htm Department of Health, New York State.

6. Pamela A. Meyer, Ph.D, Timothy Pivetz, Timothy A. Dignam, M.P.H.,David M. Homa, Ph.D, Jaime Schoonover, Debra Brody, M.P.H, : Surveillance for Elevated Blood Lead Levels Among Children - United States, 1997—2001, *MMWR, September 12, 2003; 52 (S S10); 1-21.*

7. Article by Raina Habal, MD. http://www.emedicine.com/med/topic1269.htm\ Toxicity, Lead. October 04, 2004

8. Committee on Environmental Health, American Academy of Pediatrics, *Screening for Elevated Blood Lead Levels. Pediatrics, Vol 101, No.6, June 1998, pp. 1072-1078.* http://pediatrics.aappublications.org/cgi/content/full/101/6/1072

Communicable Diseases

One way to examine the status of a community's health is to look at the incidence (number of new cases reported) of communicable diseases. The table below contains the number of new case reports and the rates per 100,000 population for the year 2003 for selected communicable diseases for Louisville Metro, Kentucky, and the United States. (For AIDS, the year 2002 was used.) The table includes, for comparison purposes, the rate for state and national goals as defined in the Healthy Kentuckians 2010[1] and Healthy People 2010[2] reports respectively, if a goal has been identified.

Communicable Disease Rates, 2003
(Rate = Incidence per 100,000 Population)

	Louisville Metro	Kentucky	U.S.A.	State Goal	U.S.A. Goal
Population Estimates (denominator)	699,017	4,090,000	290,809,777		
AIDS (Rate)	11.0	5.4	15.2	5.4	1.0
AIDS (Case Count)	77	220	44,232		
Primary and Secondary Syphilis (Rate)	3.6	0.8	2.5	0.27	0.2
Primary and Secondary Syphilis (Case Count)	25	33	7,177		
Gonorrhea (Rate)	205.9	87.5	115.2	55.0	19.0
Gonorrhea (Case Count)	1,439	3,578	335,104		
Chlamydia (Rate)	298.1	195.1	301.7	140.0	NRG
Chlamydia (Case Count)	2,084	7,981	877,478		
Tuberculosis (Rate)	4.1	3.4	5.1	1.0	1.0
Tuberculosis (Case Count)	29	138	14,874		
Pertussis (Rate)	1.6	1.3	4.0	NRG	NRG
Pertussis (Case Count)	11	53	11,647		
Measles (Rate)	0.0	0.0	0.02	0.0	0.0
Measles (Case Count)	0	0	56		

NRG = No Related Goal
State Goal from Healthy Kentuckians 2010
U.S.A. Goal from Healthy People 2010

AIDS

What is it?

Acquired Immunodeficiency Syndrome (AIDS) is the most advanced stage of illness that occurs following infection with the human immunodeficiency virus (HIV). HIV infection progressively destroys a body's ability to protect itself from infection. A person with HIV infection is diagnosed as having AIDS when their body produces abnormally low numbers of white blood cells. A person with AIDS thus becomes ill with opportunistic infections that normally do not affect healthy people.

HIV is transmitted from person to person through contact with body fluids, including blood, semen, vaginal secretions, and breast milk. The most common behaviors associated with a risk for infection (modes of exposure) are sexual contact with or sharing needles or syringes used by HIV infected people. HIV can also be transmitted from women to their babies during pregnancy, delivery, or through breast-feeding.

Why is it important?

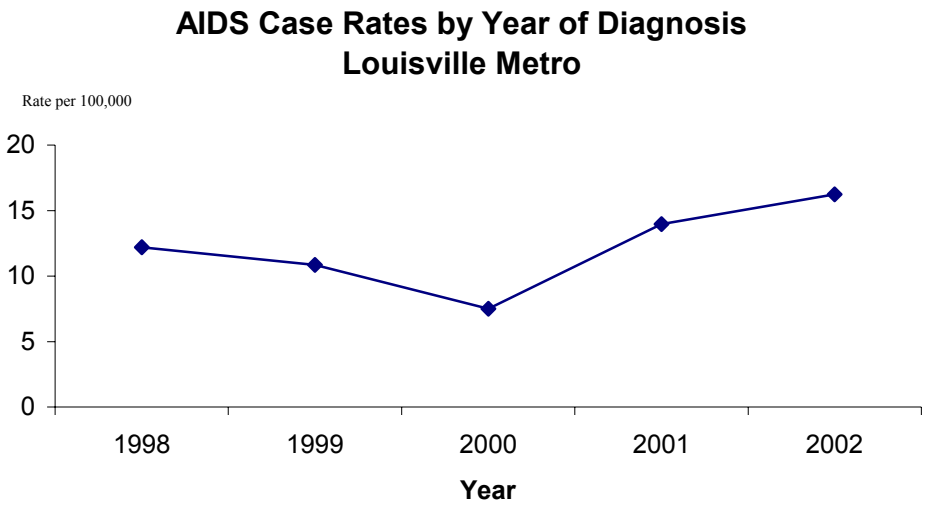
HIV is a life-threatening illness that infects an estimated million people worldwide. There is no cure for HIV/AIDS and no vaccine to prevent HIV infection. Antiretroviral medications can prevent the worsening of disease, but these therapies do not cure the infection and can have severe side effects.

Communities monitor the rate of new HIV infection, if that information is available, and the diagnosis or report of new AIDS cases. Information gathered from HIV or AIDS positive individuals has been used to identify behaviors that place people at risk for HIV infection. From looking at the data, we now know that sexual activity and sharing needles or syringes are common methods by which the disease is spread.

Since AIDS follows HIV infection, the number of new AIDS cases diagnosed in members of a community can be used as an indirect measure of HIV infection. However, the most sensitive measure of the rate of new HIV cases is a count of those individuals who are newly diagnosed with HIV infection. During the years covered by the data shown in this report, neither Louisville Metro nor the state of Kentucky had mandatory reporting of confirmed HIV infection without a diagnosis of AIDS. In the absence of HIV reports, the Louisville Metro Health Department used newly diagnosed AIDS cases as a measure of HIV infection in the community.

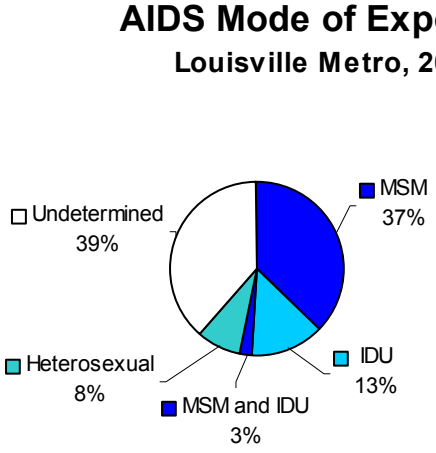
What is Louisville Metro's status?

There are substantial reporting delays associated with an AIDS diagnosis. The most recent year of data that is not considered provisional by the Kentucky Department for Public Health at the time this document was prepared is the 2002 calendar year. The number and rate of new AIDS cases in Louisville Metro increased in 2002 as compared to 2001 (from 97 to 113 cases and a rate of 14.0 to 16.2 cases per 100,000 population)[3]. This increase continues the trend seen from 2000 to 2001. The current rate is between two and three times the goal of Healthy Kentuckians 2010 and more than 10 times the goal of Healthy People 2010.



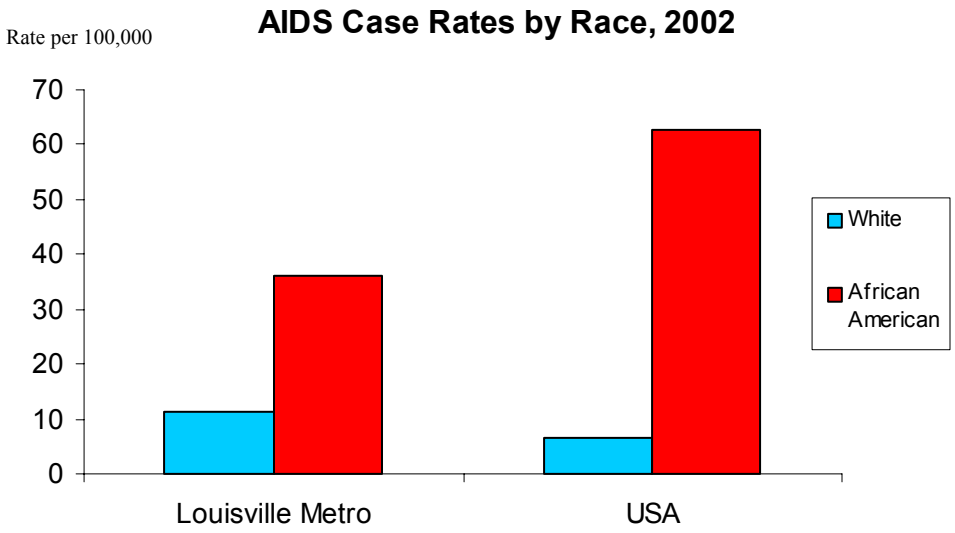
A change in AIDS case rate could be caused by a change in the number of new people in the community who have HIV infection, since HIV infection is a prerequisite for AIDS. It could also be influenced by the relative effectiveness of antiretroviral therapy, since the progression of HIV infection to AIDS can be slowed by therapy. In the absence of named HIV reporting we cannot distinguish between those two potential causes for changes in the rate.

The percentages of the total number of new AIDS cases diagnosed in 2002 associated with a particular mode of exposure are shown in the chart below.[3]



Men who have sex with men (MSM) is the predominant mode of exposure (37%), but injection drug use (IDU) at 13% and heterosexual contact with HIV infected individuals at 8% are contributors. Three percent of the new AIDS cases indicated that they had multiple modes of exposure (MSM and IDU) and 39% identified no behaviors that placed them at risk for HIV infection.[3]

When examining reported cases of AIDS in the United States, African Americans have a higher rate than Whites, nearly ten times the rate in 2002. In Louisville Metro in 2002, the rate of new cases reported was over three times higher for African Americans than for Whites.[3,4] It is important to remember that these rates reflect the cases that are reported by health care providers in the community.



Primary and Secondary Syphilis

What is it?

Syphilis is a sexually transmitted disease caused by the *Treponema pallidum* bacterium. The organism is transmitted from an infected individual when one has direct contact with an infected person's sores. The sores can be found on the external genitals, the vagina, anus, rectum, mouth, or lips. Unprotected anal, oral, or vaginal sex with an infected individual is a mode of exposure for syphilis. In addition, pregnant infected women can transmit the disease to their babies.

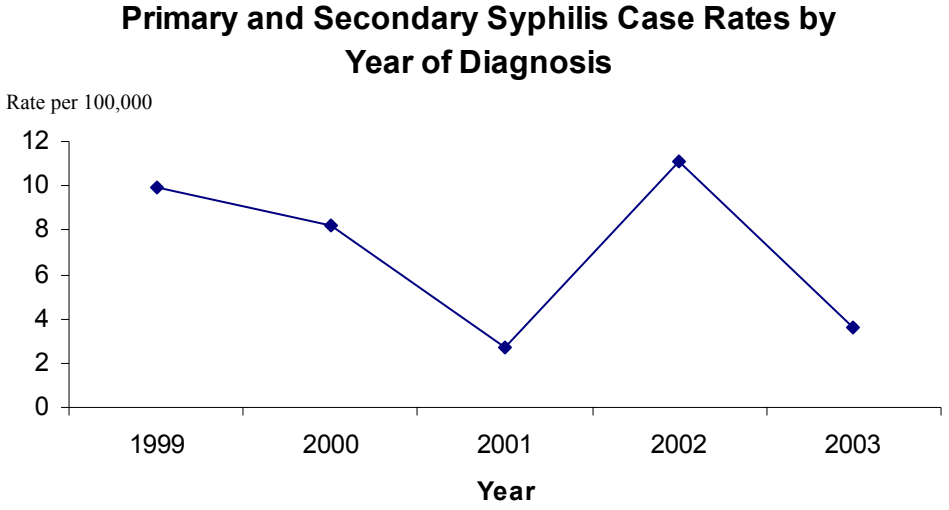
Primary and secondary syphilis cases represent individuals with syphilis who were relatively recently infected and who are capable of transmitting the disease to uninfected people.

Why is it important?

Syphilis is a sexually transmitted disease that has resulted in devastating epidemics. If the disease is untreated, the signs and symptoms that can develop as a result of a late stage of syphilis infection include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia. The resulting damage may be serious enough to cause death.

What is Louisville Metro's status?

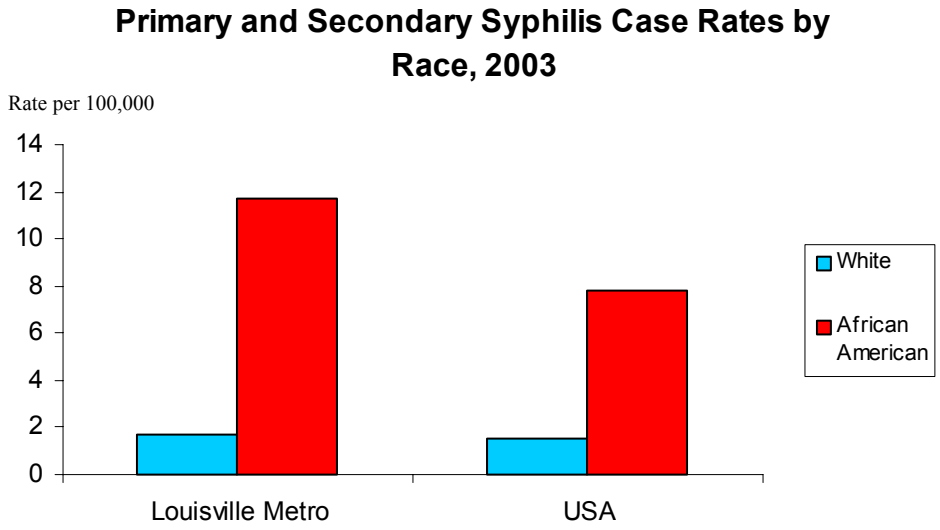
The rate of new primary and secondary syphilis cases in a community is an important health status indicator. The number of new cases of primary and secondary syphilis in our community decreased from 77 cases in 2002 to 25 cases (3.6/100,000 population) in 2003. This case count and rate is similar to the numbers seen in 2001 (19 cases and a rate of 2.7/100,000 population).[5]



Although the rate of new primary and secondary syphilis cases in our community declined, it is still more than 10 times higher than the goal rates identified in the Healthy Kentuckians 2010 and Healthy People 2010 reports.

The rates for primary and secondary syphilis in 2003 are about four times higher when Louisville Metro is compared to the state and about 50% higher than those seen in the nation.

Nationally in 2003 the rate of reported cases for African Americans was about five times the rate reported for Whites, while in Louisville Metro for 2003 the rate for African Americans was about 7 times the rate reported for Whites.[5,6]



Chlamydia

What is it?

Chlamydial infections are the most common reportable disease in the United States and are caused by the *Chlamydia trachomatis* bacterium. Both women and men can be infected and in about 50% of infections in men and 75% of infections in women the initial infection is without obvious symptoms. Individuals in the 15 to 24 year age group show the highest rates of infection.

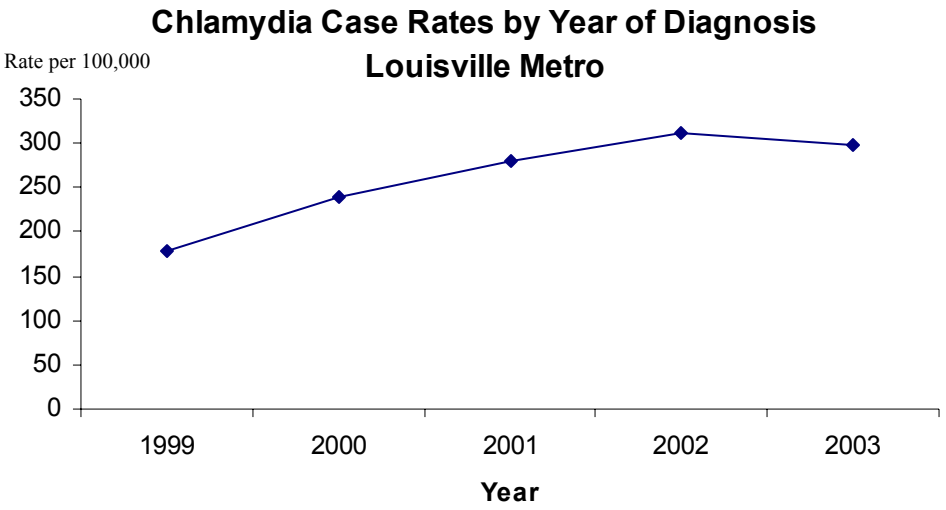
Why is it important?

In women, chlamydial infections may ultimately result in pelvic inflammatory disease, which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. As with other inflammatory, sexually transmitted diseases, chlamydial infection can increase the transmission of HIV infection. In addition, pregnant women infected with chlamydia can pass the infection to their infants during delivery, causing eye infections and pneumonia.

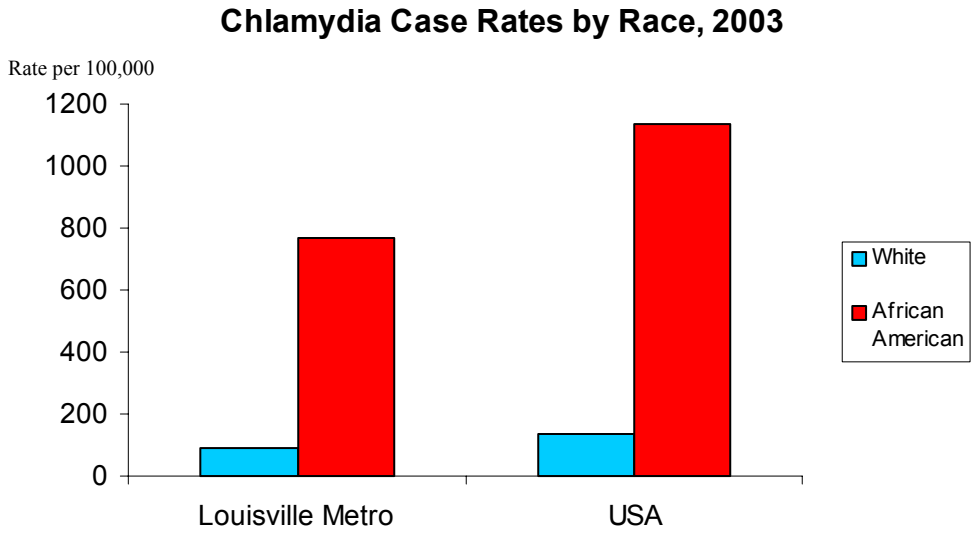
What is Louisville Metro's status?

Nationally, rates of chlamydial infection increased in both men and women during the 1990s. This probably reflects an increase in the number of screening programs, an increase in the sensitivity of the tests used to detect infection, and an increased emphasis on reporting by health care providers and laboratories. Although increases in rates of new infection were reported, the Centers for Disease Control and Prevention still believe that the disease is under-reported.

The number of new chlamydial infections per 100,000 population in Louisville Metro has increased over the past five years.[5] It is possible that the number of cases reported in our community has increased partly because of an increase in our screening programs and the reporting of health professionals, rather than a true increase in actual chlamydial infections. The rate of new chlamydial infections seen in Louisville Metro for 2003 (298.1 per 100,000) is higher than the rate seen in Kentucky and about the same as the rate seen in the nation.



When examining reported cases of chlamydia, African Americans have a higher rate than Whites. For both Louisville Metro and the United States in 2002, the rate of new cases reported was between eight to nine times higher for African Americans than for Whites. [5,6]



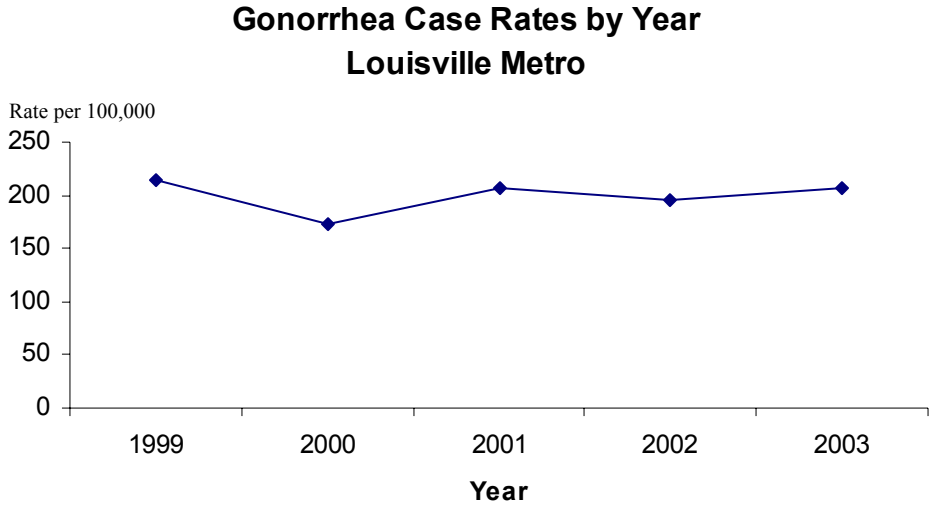
Gonorrhea

What is it?
Gonorrhea, is a sexually transmitted disease caused by the *Neisseria gonorrhoeae* bacterium. *Neisseria gonorrhoeae* can live and grow in parts of a male or female's reproductive tract, anus, rectum, mouth or eyes.

Why is it important?
Like chlamydial infections, gonorrhea is a cause of pelvic inflammatory disease in women, which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. It can also be transmitted from a mother to her child during pregnancy. In men, gonorrhea infections can produce painful testicular infections that can lead to infertility.

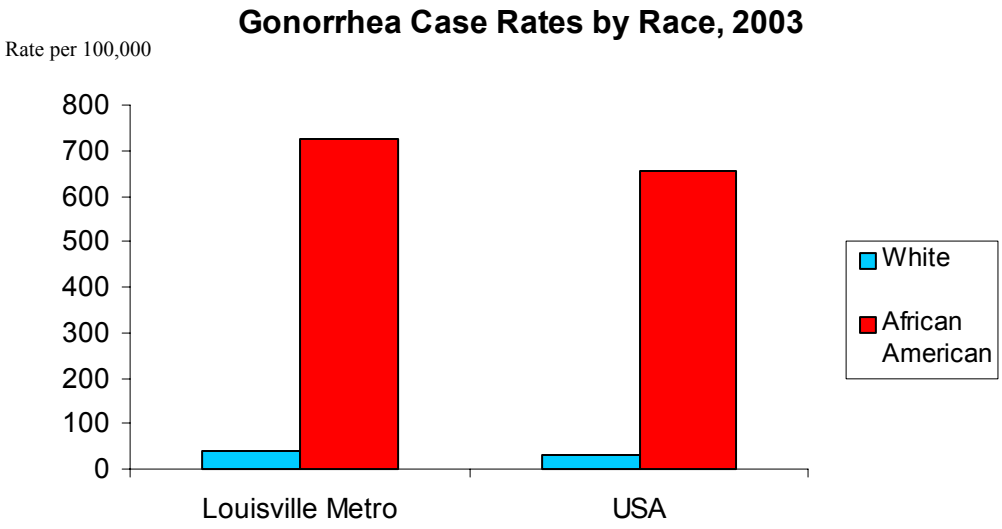
In both men and women gonorrhea can also facilitate the transmission of HIV infection. It occasionally spreads to a person's blood or joints and becomes a life-threatening infection.

What is Louisville Metro's status?
Nationally, the reported rate of gonorrhea has slightly declined from 1999 to 2002. The number of new gonorrhea cases per 100,000 population in Louisville Metro has fluctuated over the past 5 years, but does not display a consistent trend.[5] As is the case with chlamydial infections, the reports of gonorrhea in the community are influenced by many factors in addition to the actual incidence of the disease in the community.



The rate of new gonorrhea cases seen in 2003 (205.9 per 100,000) in Louisville Metro is two times greater than the rate seen in Kentucky and 10 times greater than the national Healthy People 2010 goal of 19 per 100,000 population.

Overall rates for gonorrhea in 2003 are almost two times higher for Louisville Metro as compared to the nation. In 2003, reported case rates were 20 times higher for African Americans in the nation and 19 times higher in Louisville Metro. [5,6]



Tuberculosis

What is it?

Tuberculosis (TB) is a disease caused by the *Mycobacterium tuberculosis* bacterium. The bacteria can infect any part of your body, but the most common area is the lungs. TB can be spread through the air from one person to another. The bacteria are put into the air when a person with TB disease of the lungs or throat coughs or sneezes. People who are physically close to the infected individual may breathe in these bacteria and become infected.

Why is it important?

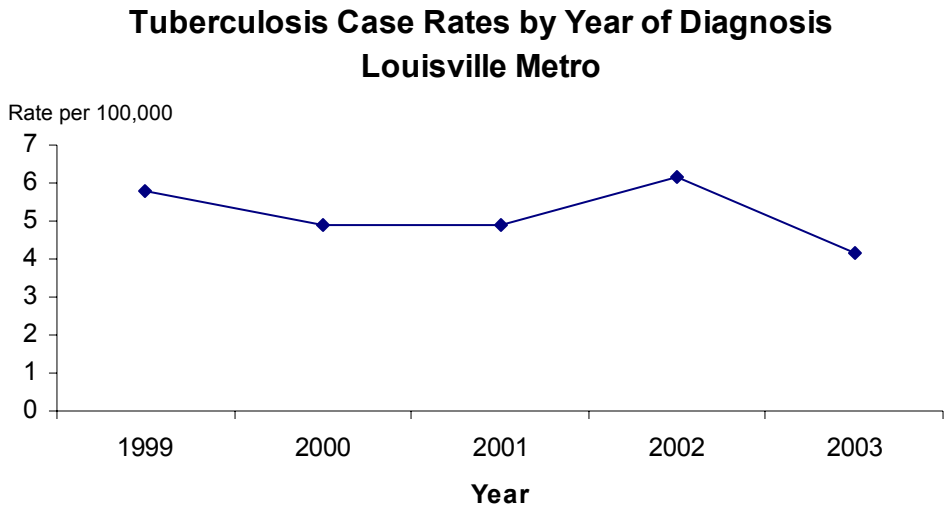
TB was once the leading cause of death in the United States. Although TB case rates declined after World War II, they increased, nationally, between 1985 and 1992. TB case rates have been declining nationally since then, but there were still over 14,000 cases in the United States in 2003.

What is Louisville Metro's status?

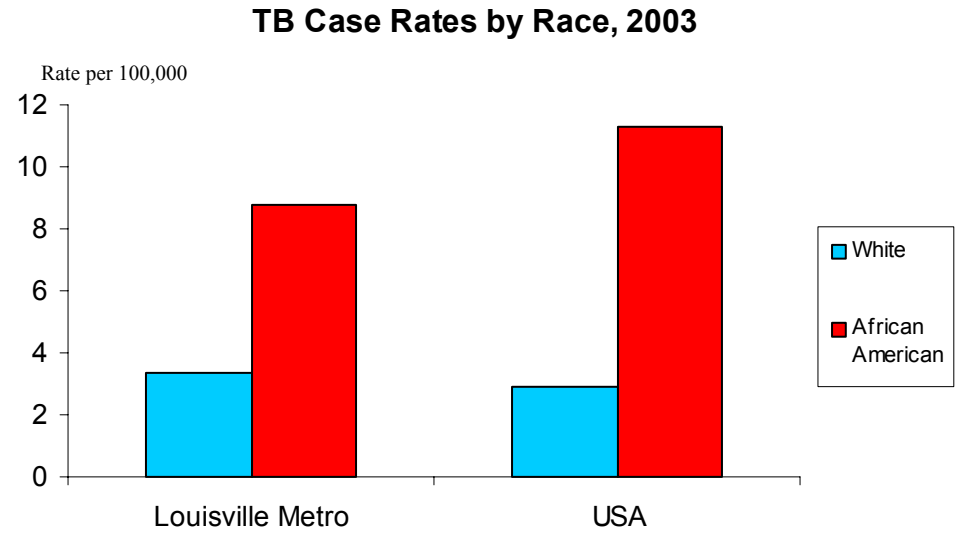
Although nationally active TB case rates have fallen since the Centers for Disease Control and Prevention started monitoring them, TB cases continue to be reported in the United States and the national rate of new active TB infections for 2003 was 5.1 per 100,000 population.

The rate of new cases of TB in Louisville Metro has fluctuated some over the past five years, but does not show a clear trend.[7]

Our case rate (4.1 per 100,000) is higher than the rate seen for the state, and about 20% less than the rate seen for the country. The rate of new TB cases in Louisville Metro for 2003 is about 4 times higher than the goal in the Healthy Kentuckians 2010 and Healthy People 2010 reports.



While the case rates for 2003 were higher for African Americans in both Louisville Metro and the nation, the racial disparity is greater in the nation. In Louisville Metro the rate was almost three times higher while in the United States the rate was about four times higher for African Americans as compared to Whites. [7,8]

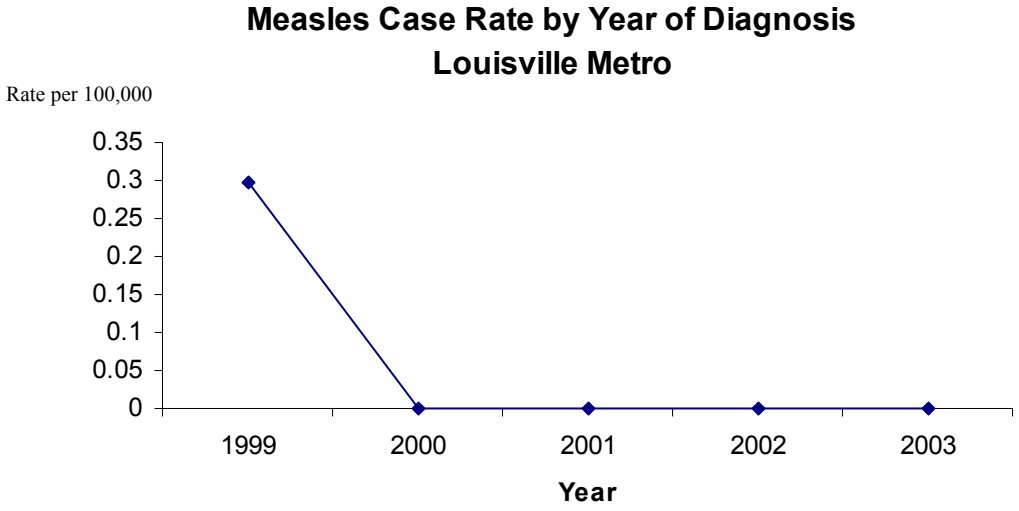


Measles

What is it?
Measles is a highly contagious respiratory disease caused by a virus. Symptoms include rash, high fever, runny nose, and eyes.

Why is it important?
Before 1963, there were an average of 3 to 4 million cases and 450 deaths caused by measles in the United States each year. In addition to deaths, other complications that follow measles infection include encephalitis (inflammation of the brain), which can lead to deafness; mental retardation; or miscarriage, premature birth, and birth of low weight babies in pregnant women who are infected.

What is Louisville Metro's status?
Although there were 56 cases of measles in the United States, there were no new measles cases in Louisville Metro or in Kentucky in 2003.[9] In the past five years Louisville Metro has recorded only 2 new cases of measles during 1999. A nearly universal childhood vaccination program using a very effective vaccine coupled with effective reporting and surveillance programs have contributed to this very low new case rate.



Pertussis

What is it?

Pertussis (Whooping Cough) is a highly contagious respiratory infection caused by the *Bordetella pertussis* bacterium. Symptoms often last for many weeks and in young children may include severe bouts of coughing with a "whooping" sound as the child tries to inhale between coughs. The child may vomit after a coughing spasm. Symptoms in adolescents and adults may not be as severe as they are in young children.

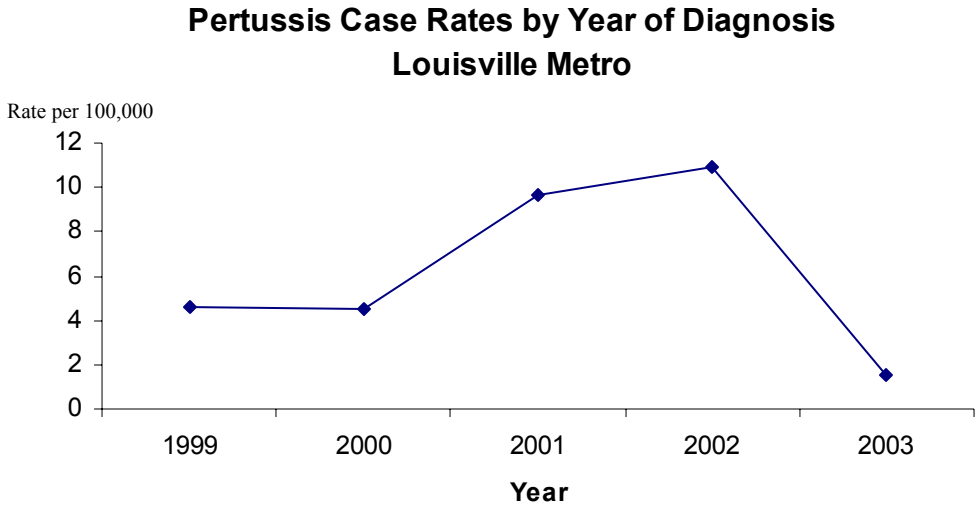
Why is it important?

Complications resulting from the initial infection can occur (particularly in young children) and these complications can be life threatening. Immunization can prevent, or at least reduce the severity of, the infection. However, children who are too young to be vaccinated or who have started the vaccination series, but who have not had the time to develop immunity are at risk for the infection.

What is Louisville Metro's status?

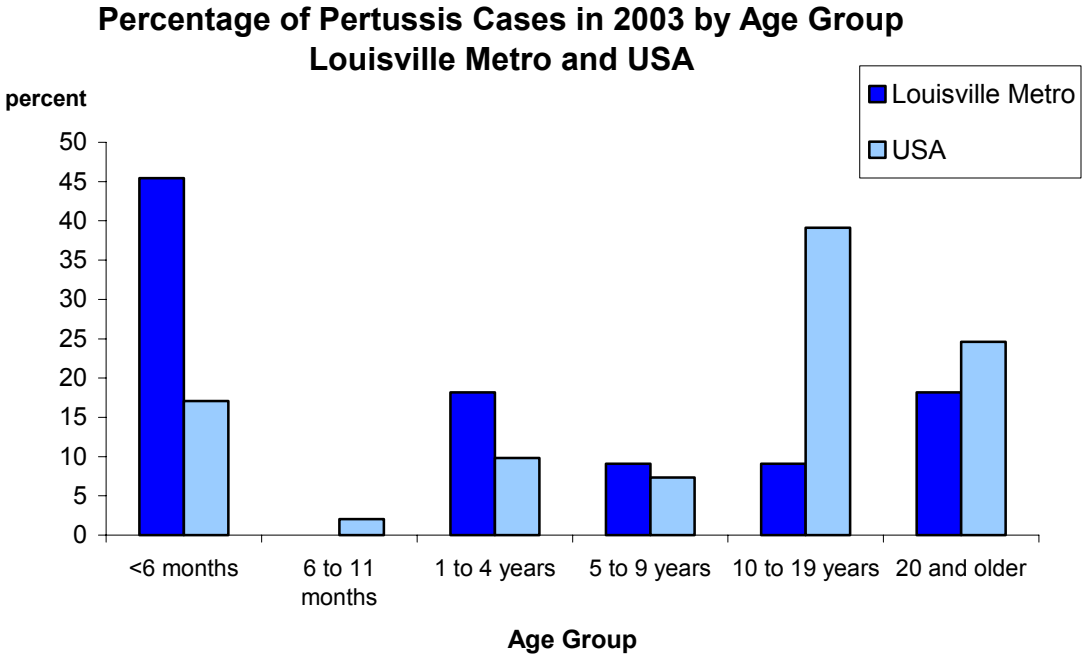
The rate of new pertussis cases per 100,000 population in Louisville Metro has fluctuated over the past five years.[9] In 2002 the rate increased slightly from the 2001 rate to 10.9 cases per 100,000 and in 2003 the rate fell sharply to 1.6 per 100,000 population. This nearly 7-fold change in rate is quite large, but we have seen decreases or increases this great in the past.

Although pertussis is a vaccine preventable disease, vaccine-induced immunity wanes 5 to 10 years after the last vaccination. That suggests that individuals older than 10 years of age will have diminishing immunity. These older members of the community could act as reservoirs for the bacterium responsible for pertussis, and could infect other individuals in the community who have diminishing immunity or who were never immunized. Adolescents and adults who have pertussis may fail to seek treatment or may not be diagnosed as having pertussis when they do seek treatment. This contributes to a steady supply of infectious persons in the community who are available to infect other under-immunized or un-immunized people.

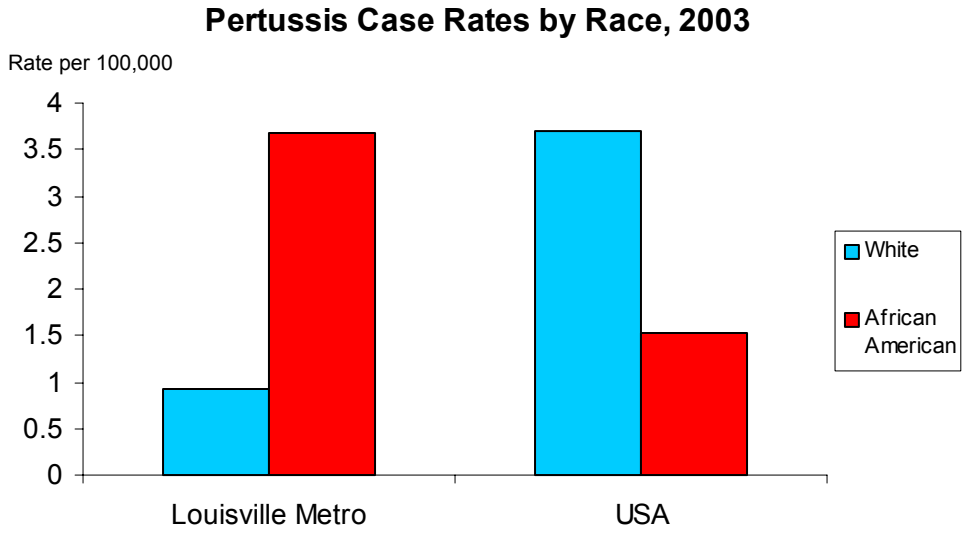


Nationally, most pertussis cases are seen in children less than 6 months of age, before they have had the opportunity to respond to vaccination and in adolescents and adults greater than 10 years of age, after their vaccine-induced immunity has begun to wane.[7] Our local case distribution by age of patient differs from the national pattern.

In Louisville Metro in 2003 45% of pertussis cases were seen in children less than 6 months of age, but 18% of the cases were seen in children 1 to 4 years of age. Children aged 1 to 4 years are old enough to have been protected by vaccination. Also only 27% of the cases seen in Louisville Metro were in people 10 years of age or older.



Nationally, pertussis rates are higher in Whites than in African Americans (a rate in Whites that is more than two times greater than the rate seen in African Americans). In Louisville Metro during 2003 pertussis rates are higher in African Americans than in Whites (a rate in African Americans that is about three times higher than the rate seen in Whites). Compared to the nation, Louisville Metro reports higher pertussis rates for African Americans, but lower rates for Whites and overall. [9,10]



Louisville Metro is fortunate to have a children's hospital in the community that has been a pioneer in the screening and diagnosis of pertussis cases in the patient population. The exceptional surveillance and reporting from that hospital could help to explain the unexpectedly large number of pertussis cases reported in children seen in Louisville Metro.

What are we doing about it?

The current Communicable Disease Reporting/Surveillance model used in Louisville Metro requires that our partners in the community initiate a report of a specific reportable disease. Once the department has the report, individuals in the communicable disease division can investigate the report and assess our community's risk as a result of each reported case. The number of staff available for surveillance activities and the use of programs and procedures to improve the timeliness and accuracy of disease reports from our partners help define the picture of the incidence of reportable disease in our community.

Louisville Metro Health Department has reduced the number of nurses on the communicable disease staff from 5 to 4 nurses. Two of the four remaining communicable disease nurses divide their time between disease surveillance and immunization activities in the community. These nurses supplement the surveillance activities performed by the two full time surveillance nurses and the epidemiologist. They also visit physician's offices in the community as part of an effort to encourage timely and accurate disease reporting and to supply information about the specific tests required to confirm reportable diseases.

The medical director for the communicable disease division begins his second year with the department. This physician has a background in pediatric infectious diseases and supplies valuable clinical experience to the division as well as acting as a point of contact between the Louisville Metro Health Department and other physicians in the community.

The **Office of Vaccines and Immunizations** conducts surveys of all day care facilities and schools in the Louisville Metro annually and conducts on-site audits at the request of and in collaboration with the Kentucky State Immunization Program regarding childhood immunizations. They also conduct educational programs and coordinate providing immunizations at clinic locations. They hold special walk-in clinics for influenza vaccinations in the fall.

The **HIV/AIDS Prevention Program** conducts community and targeted prevention education sessions and provides confidential testing, counseling and partner notification services. As a component of the Health Department's AIDS prevention strategy, the methadone maintenance clinic was established to reach opiate addicted IV drug users. The Louisville Metro Health Department is the only health department in the state that receives funding from the state's Division of Substance Abuse for the treatment of opiate addiction.

The **Specialty Clinic,** which receives funding from the CDC under the Syphilis Elimination Grant, diagnoses and treats sexually transmitted diseases. The number of clinic staff was increased in order to do more testing for syphilis and HIV on a walk-in basis at the clinic as well as at the County Jail and homeless shelters.

The **Regional Tuberculosis Clinic** provides diagnosis and treatment for active and latent TB infections. A team, comprised of physicians, nurses, and a social worker, provide case management for active cases. Directly Observed Therapy is provided to all patients with active TB to insure complete treatment.

What else do we need to do?

Disease reporting and surveillance in Louisville Metro and in other communities around the world is a passive system that relies on non-health department partners in the community to initiate the disease report. The Louisville Metro Health Department continues to explore and develop cost effective techniques that will move Louisville Metro from a passive reporting system to a more active system. The more active systems involve the health department discovering disease in the community before our partners have the opportunity to report it. The department needs to continue to examine opportunities to move to a more active disease surveillance model and to develop partnerships with other health related agencies in the community to share the costs and the benefits of a more active surveillance system.

References

1. *Healthy Kentuckians 2010.* Department for Public Health, Cabinet for Health Services, Division of Epidemiology and Health Planning, Frankfort, Kentucky, 2000.

2. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health*. 2 vols. Washington, DC: Government Printing Office, 2000.

3. Kentucky HIV/AIDS Program. Department for Public Health, Cabinet for Health Services. Frankfort, Kentucky, 2004

4. Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 2003 (Vol.15). Atlanta: US Department of Health and Human Services, Center for Disease Control and Prevention; 2004

5. STD Program. Department for Public Health, Cabinet for Health Services. Frankfort, Kentucky, 2003.

6. Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2003 Supplement, Syphilis Surveillance Report*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, December 2004.

7. TB Surveillance Program. Louisville Metro Health Department, Louisville, Kentucky, 2004

8. Centers for Disease Control and Prevention. *Reported Tuberculosis in the United States, 2003*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, September 2004.

9. Communicable Disease Division. Louisville, Metro Health Department, Louisville, Kentucky, 2005

10. Centers for Disease Control and Prevention. *Summary of notifiable diseases, United States, 2003*. Published April 22, 2005, for MMWR 2003;52(No. 54)

Appendix
ICD-10 Codes for Mortality Data

Cause of Death	ICD-10 Code
All Cancer	C00-C97
All Causes	A00-Y89
Alzheimer's Disease	G30
Asthma	J45-J46
Certain Conditions Originating in the Perinatal Period	P00-P96
Chronic Liver Disease and Cirrhosis	K70, K73-K74
Chronic Lower Respiratory Diseases	J40-J47
Congenital Malformations, Deformations, and Chromosomal Abnormalities	Q00-Q99
Coronary Heart Disease	I11, I20-I25
Diabetes	E10-E14
Diseases of Heart	I00-I09, I11, I13, I20-I51
Disorders Related to Short Gestation and Low Birth Weight, Not Elsewhere Classified	P07
Essential (primary) Hypertension and Hypertensive Renal Disease	I10, I12
Female Breast Cancer	C50
Homicide	X85-Y09, Y87.1
Human Immunodeficiency Virus (HIV) Disease	B20-B24
Influenza & Pneumonia	J10-J18
Lung Cancer	C33-C34
Motor Vehicle Crash	V02-V04, V09.0, V09.2, V12-V14, V19.O-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Newborn Affected by Maternal Complication of Pregnancy	P01
Prostate Cancer	C61
Respiratory Distress of Newborn	P22
Stroke	I60-I69
Sudden Infant Death Syndrome (SIDS)	R95
Suicide	X60-X84, Y87.0
Unintentional Injury	V01-X59, Y85-Y86

ICD-10 Codes for Injury Mortality Data

Mechanism	All Injury	Unintentional	Suicide	Homicide
All Injury	V01-Y36, Y85-Y87, Y89	V01-X59, Y85-Y86	X60-X84, Y87.0	X85-Y09, Y87.1
Cut/Pierce	W25-W29, W45, X78, X99, Y28, Y35.4	W25-W29, W45	X78	X99
Drowning	V90-V90.9, W65-W74, X71, X92, Y21	V90-V90.9, W65-W74	X71	X92
Fall	W00-W19, X80, Y01, Y30	WOO-W19	X80	Y01
Fire/Hot object or substance	X00-X19, X76-77, X97-X98, Y26-Y27, Y35.0	X00-X19	X76-77	X97-X98
Firearm	W32-W34, W72-74, X93-X95, Y22-Y27, Y36.3	W32-W34	X72-74	X93-X95
Machinery	W24, 230-W31	W24, W30-W31		
All transport	V01-V99, X82, Y03, Y32, Y36.1	V01-V99	X82	Y03
Motor Vehicle Crash	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1,V82.0-V82.1, V83-V86,VV87.0-V87.8, V88.0-V88.8, V89.0, V89.2	X82	Y03
All other transport-related	V01, V05-V06, V09.1, V09.3, V09.9, V10, V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99, X82, Y03, Y32, Y36.1	V01, V05-V06, V09.1, V09.3, V09.9, V10, V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99	X82	Y03
Natural/environmental	W42, S45, S53-S64	W42, W43, S53-S64		
Overexertion	X50	X50		
Poisoning	X40-X49, X60-X69, X85=X90, Y10-Y19, Y35.2	X40-X49	X50-X69	X85-X90
Struck by or against	W20-W22, W50-W52, X79, Y00, Y04, Y29, Y35.3	W20-W22, W50-W52	X79	YOO, Y04
Suffocation	W75-W84, X70, X91, Y20	W75-W84	X70	X91

ICD-9 Codes for Morbidity Data

Cause	ICD-9 Code
Acquired Immunodeficiency Syndrome (AIDS)	042-044
All Cancer	140-208
All Causes	001-E999
Asthma	493
Breast Cancer	174
Coronary Heart Disease	402, 41-414, 429.2
Chronic Obstructive Pulmonary Disease	490-496
Diabetes	250
Diseases of the Heart	390-398, 402, 404-429
Homicide /Assault	E960-E969
Lung Cancer (bronchitis and lung)	162.2-162.9
Mental Disorders	290-319
Mental Retardation	317-319
Motor Vehicle Crashes	E810-E825
Neuroses, Personality Disorders and Other Nonpsychotic Mental Disorders	300-316
Prostate Cancer	185
Psychoses	290-299
Stroke	430-438
Suicide/Self-Inflicted Injury	E950-E959
Unintentional Injury	E800-E949